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Pennsylvania **GAME NEWS**

JANUARY, 1969

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COVER PAINTING BY NED SMITH

A large bull elk sometimes attains a weight of 1000 pounds, though 700-800 is more common. Regardless, it is the largest game animal to be hunted in Pennsylvania's recent history (the last open season was in 1931; since then elk have been fully protected in the state). The elk, more properly called wapiti, is basically an animal of the wilderness and does not thrive in proximity to civilization as the whitetail does. The few dozen presently living in our northcentral region, one of which is depicted on this month's cover, are symbolic of the thousands which roamed Pennsylvania's mountains and meadows in times past. For a contemporary account of elk hunting as practiced then, see our lead story on page 2.

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TIME . . .

IT SEEMS LIKE only a few weeks since I was writing the editorial for the 1968 New Year's issue, but somehow an entire year has gone by and we now are ready to welcome 1969. Twelve months, considered in a lump, make up a pretty good chunk of time, but if you take it minute by minute, and check off a half million or so (527,040 in 1968, for you persnickety characters), you'll find another year has passed and we poor mortals have, in effect, conquered the great intangible, Time. At least temporarily. Nobody ever wins the last battle with that opponent.

We didn't intend to get off to a gloomy start, but just wanted to give some thought to time. Normal time—as opposed to, for instance, Einstein's time-space continuum, which would be inappropriate here; besides, we know nothing about that!

If you don't stop to think about it, time is easy to understand, though perhaps impossible to define. The only reason we bring it up now is because we've come to realize it's the one thing that nobody ever has enough of. The year which just passed proved that. In that interval, twelve issues of **GAME NEWS** appeared in your homes. But before the mailman delivered them, the editorial staff had the fascinating task of putting them together. From the hundreds of manuscripts that came in, some dozens were selected for publication. Numerous letters to writers were necessary to clear up vague points, and most of the technical articles were checked for accuracy by independent authorities. Then, after being scheduled for a specific month, art was arranged, the copy was edited and set into type, galleys were corrected and layouts made. Corrections again were made on page proofs—and usually about this time, for some reason, one or more stories were pulled, to be rescheduled, and substitutes inserted. In the meantime, all staff-written material was processed, while groups of covers had been put into production months in advance. One more proof is checked before printing begins. This one has all type and artwork in place—the first time we've actually seen what the final product will actually look like—and here is where we try to catch any transposed photos, captions or whatever.

Each of these chores takes time—and that's the only reason we give this outline of our duties. For although we always expect we'll have plenty of time to do whatever is necessary on a given issue—and although most of it does seem to get done somehow—we always have the feeling we could have done a better job if we'd arranged our schedule just a little better or had only one more day to work. We never do have that spare day, of course. Deadlines are always there.

This is not to suggest we are unhappy with the past year's **GAME NEWS**. Truth is, we're proud of each issue. But at the same time, we hope to make 1969's dozen even better . . . time permitting! And that's sort of our New Year's resolution to you.—*Bob Bell*





From Out of the Past Comes This On-the-Spot Account of . . .

Hunting Pennsylvania's Elk

By Colonel Parker

WHEN I STARTED in to amuse and profit myself by following the chase in northern Pennsylvania, elk were running in those woods in herds. I have killed elk aplenty in the Rocky Mountain country and other regions since, but I never ran across any that were as big as those old-time Pennsylvania elk. I have killed elk on the Sinnemahoning and Pine Creek waters, and down on the Clarion River and the West Branch, that were as big as horses. A 1000-pound elk was nothing uncommon in that country, and I killed one once that weighed 1200 pounds. These were bulls. The cows would weigh anywhere from 600 to 800 pounds.

These elk had very short and thick necks, with a short and upright mane. Their ears were of enormous size, so large, in fact, that once Sterling Devins, a good hunter, too, saw a cow elk in the woods on Pine Hill, near Ole Bull's castle, in the times when elk had begun to grow scarce, and passed without shooting at it, thinking it was

a mule. When Sterling knew what it was, he felt like kicking himself harder than the elk could have kicked him, even if it had been a mule.

The Pennsylvania elk's eyes were small, but sparkled like jewels. I have often seen a score or more pairs of these bright eyes shining in the dark recesses of the pine forest, when the shadow might have otherwise obscured the presence there of the owners of those telltale orbs. An infuriated bull elk's eye was about as fearful a thing to look at as anything well imaginable, but so quickly changeable was the nature of those huge beasts that two hours after having been captured with ropes, one that had, from the vantage ground of his rock, gored and trampled the life out of a half dozen of dogs, and well-nigh overcome the attacking hunters, it submitted to being harnessed to an improvised sled and unresistingly hauled a load of venison upon it six miles through the woods to my cabin, and took its place among the cattle with as docile an air as if it had been born and brought up among them.

This same elk that Sterling Devins had mistaken for a mule, he and Ezra Prichard followed all the next day, but lost its trail. Some Pine Creek hunters got on its trail, drove it to its rock, and roped it. When Devins and Prichard got back at night they found the Pine Creek hunters there and the elk in the barn eating hay and entirely at home. That elk had quite an interesting subsequent history. Ezra Prichard had, previous to the capture of this one, secured a pair of elk, broke them, and for a long time drove them to farm work like a yoke of oxen. Sterling Devins was eager for a yoke of elk, and he offered the Pine Creek

This article first appeared in the *New York Times* (date unknown), and was reprinted in the *Pittsburgh Post* on April 19, 1896. It was written by one Colonel Parker of Gardeau, McKean County, Pa., and we are grateful to Walton Metz of Millville for bringing it to our attention. Though a number of the author's statements apparently are exaggerations (like unto today's hunters!), there is much information of historical value to readers interested in our state's game, and the article provides an unusual opportunity for a firsthand view of elk hunting as it was practiced some three-quarters of a century ago when large numbers of this splendid animal roamed the Pennsylvania wilderness areas.



THE WHISTLE OF A BULL ELK, as hunters used to call it, wasn't a whistle, though it had a flute-like sound. It was more of a bugle.

hunters \$100 for the one they had captured. They refused the offer, but afterwards got into a dispute about its ownership, and it was sold to Bill Stowell and John Sloanmaker, of Jersey Shore. These men took the elk about the country, exhibiting it, and made quite a sum of money. Next fall, although the elk was a cow, it became very ugly and attacked its keeper, nearly killing him before he could get away. No one could go near her, and her owners ordered her shot. The carcass was bought by a man who had a fine pair of elk horns. He was a skillful taxidermist, and he managed to fasten the horns to the head of the cow elk in such a manner that no one was ever able to tell that they hadn't grown there. This made of the head an apparently magnificent head of a bull elk, and it was purchased for \$100 on that belief, by a future governor of the state of Pennsylvania.

Last Elk in the Pine Creek Region

That cow elk was one of the last family of elk in the Pine Creek country. She and the bull and a calf had been discovered some time before Sterling Devins ran across the cow, by Leroy Lyman, on Tomer's Run, near the Ole Bull settlement. Lyman got a shot at the bull, but the whole threc escaped. The same party of hunters that captured the cow killed the bull afterward in the woods on Kettle Creek. The ealf the dogs ran into Stowell's mill pond, and there it was killed.

Another peculiarity of the elk that used to frequent the Pennsylvania woods was the great size of their nostrils, and the keenness of their scent was something beyond belief. A set of elk antlers of five feet spread and weighing from forty to fifty pounds was not an infrequent trophy. George Raw, who was one of the great hunters of northern Pennsylvania

in his day—and he is one of the greatest in the Rocky Mountains even to this day, in spite of his eighty-five years—lived along the Allegheny at Portville. He had in his house and in his barn, the walls almost covered with the antlers of elk he had killed, on the peak of his roof, at one end, being one that measured nearly six feet between the extremities. When George moved West forty years ago he left the horns on the buildings, and only a few years ago many of them were still there, as reminders of what game once roamed our woods.

Hunting Skill Required

It required more skill to hunt the elk than it did to trail the deer, as they were much more cautious and alert. For all that, an elk, when startled from his bed, did not instantly dash away, like the deer, but invariably looked to see what had aroused him. Then, if he thought the cause boded him no good he went, not leaping over the brush, like the deer, but, with his head thrown back, and his great horns almost covering his body, plunging through the thickets, his big hooves clattering together like castanets as he went. The elk did not go at a galloping gait, but traveled at a swinging trot that carried him along at amazing speed. He never stopped until he had crossed water. When his instinct seemed to tell him that the scent of his trail was broken before the pursuing dogs.

At the rutting season the elk, both male and female, were fearless and fierce, and it behooved the hunter to be watchful. An elk surprised at this season did not wait for any overt act on the part of an enemy, but was instantly aggressive. One blow from an elk's foot would kill a wolf or a dog, and I have more than once been forced to elude an elk by running around trees, jumping from one to another before the bulky beast, unable to make the turns quick enough, could recover himself and follow me

too closely to prevent it, thus making my way by degrees to a safe refuge. I was once treed by a bull elk not half a mile from home, and kept there from noon until night began to fall. I haven't the least doubt that he would have kept me there all night if another bull hadn't bugled a challenge from a neighboring hill, and my bull hurried away in answer to it. I didn't wait to see it, but there was a great fight between those two bulls that night.

I visited the spot the next day. The ground was torn up and the saplings broken down for rods around, and one old bull lay in the brush dead, with his body covered with bloody rips and tears. I didn't know whether this was the elk that treed me or not, but I have always been fond of believing it was.

The whistle of the bull elk, as the hunters used to call it, wasn't a whistle, although there were changes in it that gave it something of a flute-like sound. The sound was more like the notes of a bugle. In making it the bull threw back his head, swelled his throat and neck to an enormous size, and with that as a bellows he blew from his open mouth the sound that made at once his challenge or call for a mate. The sound was far-reaching, and heard at a distance, was weird and uncanny, yet not unmusical. Nearby it was rasping and harsh, with the whistling notes prominent.

"Great Elk Lick"

The Pennsylvania elk was never much scattered. When I first came to the Sinnemahoning country, nearly seventy years ago, the salt marsh that lay in the wilderness where my residence now is, was trampled over by herds of elk and deer that came there to lick the salt from the ground as if a drove of cattle had been there. I have seen seventy-five elk huddled at that marsh. That was "the great elk lick" of legend, which the reservation Indians have often talked to me about

when I lived in Allegheny County, New York, as a boy, and it was to find that lick that my father and I, following the rather indefinite directions of one Johnnyhocks, an old Shongo Indian, entered the Pennsylvania wilderness in 1826. The marsh is now the site of a large hotel, it having been found that the depths of the swamp concealed waters of rare medical value.

A Tough Old Bull

To follow an elk forty miles before running it down was considered nothing remarkable. I have done it many a time. Leroy Lyman, Jack Lyman and A. H. Goodsell once started on an elk hunt from Roulette, Potter County, struck the trail at the head of West Creek, in McKean County, thirty miles from Roulette, followed it through Elk, Clarion and Clearfield Counties, and finally drove it to its rock eighty or ninety miles from where the trail was first struck. They had followed the elk many days, and finally the quarry was found—an enormous bull—with a spread of horns

like a young maple tree. The hunters ran out of rations the second day, and were nearly starved when they ran the elk to its rock. All three of them put a bullet in the defiant elk, and ended his career. Visions of elk meat for supper had haunted the famished hunters, and when the bull fell they shouted for joy. Without delay they started in to carve expected juicy morsels from the carcass to cook for supper, but there was not a knife or a hunting axe in that party that could make an impression on the old fellow's flesh. He was a patriarch of the woods, and long past use as food. All the starving hunters could manage to make edible of the elk was his tongue, which, roasted, was a grateful offering to hungry men, but would have been impossible of mastication otherwise. The horns were the only trophy that the hunters got from the long and tedious chase, and that trophy was well worth it. It was the largest and next to the finest pair of antlers ever carried by an elk in the Pennsylvania forests, so far as there is any record. A tremendous set.

EXACT DATE WHEN this good bull elk was taken in Pennsylvania is not known; apparently it was in the 1923-1931 period.



The Elk vs. Wolves

There are scattered through the woods, generally high on the hills, from the Allegheny River down to the West Branch and Clarion River, huge rocks, some detached boulders and other projections of ledges. These are known as elk rocks, and every one of them has been, in its day, the last resort of some elk brought to bay after a long and hard chase. It was the habit of the hunted elk, when it had in vain sought to throw the hunter and hound from the trail, to make its stand at one of these rocks. Mounting it, and facing its foes, it fiercely fought off the assaults of the dogs by blows of its forefeet or tremendous kicks from its hind feet, until the hunter came up and ended the fight with his rifle. It would be strange if one or more of the dogs were not stretched dead at the foot of the rock by the time the hunter arrived on the scene. I have more than once found dead wolves lying about one of these elk rocks, telling mutely, but eloquently, the tragic story of the pursuit of the elk by the wolves, his coming to bay on the rock, the battle and the elk's victory. The elk was not always victor, though, in such battles with wolves, and I have frequently found the stripped skeleton of one lying among the skeletons of wolves he had killed before being himself vanquished by their savage and hungry fellows.

Large Winter Herds

In the wintertime the elks would gather in large herds and their range would be exceedingly limited. Sometimes they would migrate to other regions, and would not be seen for months in their haunts, but suddenly they would return and be as plentiful as ever. They had their regular paths or runways, through the woods, and these invariably led to salt licks, of which there were many natural ones in northern Pennsylvania. One of the most frequented of these elk paths started in a dense forest, where the



MAGNIFICENT BULL ELK shot illegally in Pennsylvania in 1953 dwarfs mature whitetail buck. Such illegal actions are one reason the elk herd now in Pennsylvania has not grown more.

town of Ridgway, the county seat of Elk County, now stands, led to the great lick on the Sinnemahoning portage, and thence through the forest to another big lick, which today is covered by Washington Park, in the city of Bradford. I have followed that elk path its whole length, when the only sign of civilization was now and then a hunter's cabin, from the headwaters of the Clarion River to the Allegheny, in McKean County. Hundreds of elk were killed annually at the licks or while traveling to and from them, along their well-marked runways.

Hunting Elk at Night

Hunting elk by night was an exciting sport. You have heard of things being scared at their own shadow. If you had ever hunted a Pennsylvania elk at night you would have had



LEROY GINTHER, of St. Marys, displays perfectly matched, heavy set of elk antlers he found in April, 1968, while plowing. The 12-point rack weighed 15 pounds and each antler measured 11¼" around the base. Mr. Ginther, who recently saw a herd of 22 elk near his home, said: "No matter how many times I see them, it's always a tremendous thrill!"

an opportunity of seeing something scared at its own shadow, and scared badly. A blazing pine-knot fire would be lighted in the bow of a flat-bottomed boat, and while one man sat near that end with his rifle, another paddled it through the water. Elk were always sure to be standing in the water early in the evening, after darkness had fully set in. When the light of the fire fell on an elk you would not only see his eyes shining like coals, but the whole big spectral spread of his antlers would stand out against the darkness—not only the horns of one, but of perhaps half a dozen. When the hunter fired at one elk all the others would make a break for shore, but the instant they landed their great black shadows would fall before them from the light of the blazing fires, and back they would

rush in terror to the water. Then a hunter might kill every elk in the herd or several of them, before their fright at the gun overcame the terror of the shadows and the survivors fled to the impenetrable darkness of the woods.

The biggest set of elk antlers ever captured in the Pennsylvania woods was secured in the Kettle Creek country by Major Isaac Lyman, Philip Tome, George Ayres, L. D. Spoffard and William Wattles. Philip Tome was a great hunter, and the famous interpreter for Cornplanter and Blacksnake, the great Indian chiefs. He came over from Warren County to help Major Lyman capture an elk alive, and the party started in on the first snow, with plenty of ropes and things. They camped, but the elk were in such big herds that they couldn't get a chance at a single bull for more than a week. Then they got the biggest one they ever saw and gave chase to him. They started him from his bed on Yocum Hill. The dogs took him down Little Kettle Creek to Big Kettle, and up that two or three miles. There the elk came to bay on a rock. He kept the dogs at a distance until the hunters came up, when he left the rock and started away again. Tome, knowing the nature of elk, said that all they had to do was to wait and the elk would return to the rock. They dropped poles and fitted up nooses. They waited nearly half a day, and then they heard the bull coming crashing through the woods, down the mountainsides, the dogs in full cry. He mounted his rock again. The hunters he did not seem to mind, but the dogs he fought fiercely. While he was doing that the hunters got the nooses over his immense horns and anchored him to surrounding trees. They got the elk alive to Albany, N. Y., where he was sold for \$500. That elk stood sixteen hands high and had antlers six feet long, and eleven points on each side, the usual number of points being nine on a side.

THESE OUTSTANDING elk antlers were found in Pennsylvania in 1967, providing further proof of the tremendous size attained by some of these animals. On Thanksgiving Day, Eugene Hartman, of Spring Church, found the antlers on the east branch of Hicks Run in Cameron County. One antler has 7 points, is 52¼" long, weighs 13 pounds; the other has 6 points, is 51½" long, weighs 12 pounds. Rack is displayed by Clayton Ondrizek, of Apollo.



The Rest of the Story

The last native elk in Pennsylvania is supposed to have been killed in 1867, by an Indian named Jim Jacobs, from the Cattaraugus reservation. Jacobs followed the elk—a bull—through a heavy snowstorm from Flagg Swamp in Elk County to the wilds of Clarion County, where it came to bay and the Indian shot it. None had been seen in the region for several years before that.

Today, however, there are a few elk in Pennsylvania—perhaps 40 or 50. These are descendants of small numbers stocked here a half century ago. In 1913, 50 elk from Yellowstone Park, Wyoming, and 22 from a private preserve in Monroe County were released in northcentral Pennsylvania. Two years later, 95 more Wyoming elk were released in Potter (24), Cameron (24), Carbon (24), Forest (10), Blair (7), and Monroe (6) Counties.

These animals increased enough in numbers that an open season was

established in 1923 (bulls only, four or more points to one antler). Open seasons were continued annually through 1931, but there has been none since that date. During the first season, 23 legal bulls were taken; in 1931, only one.

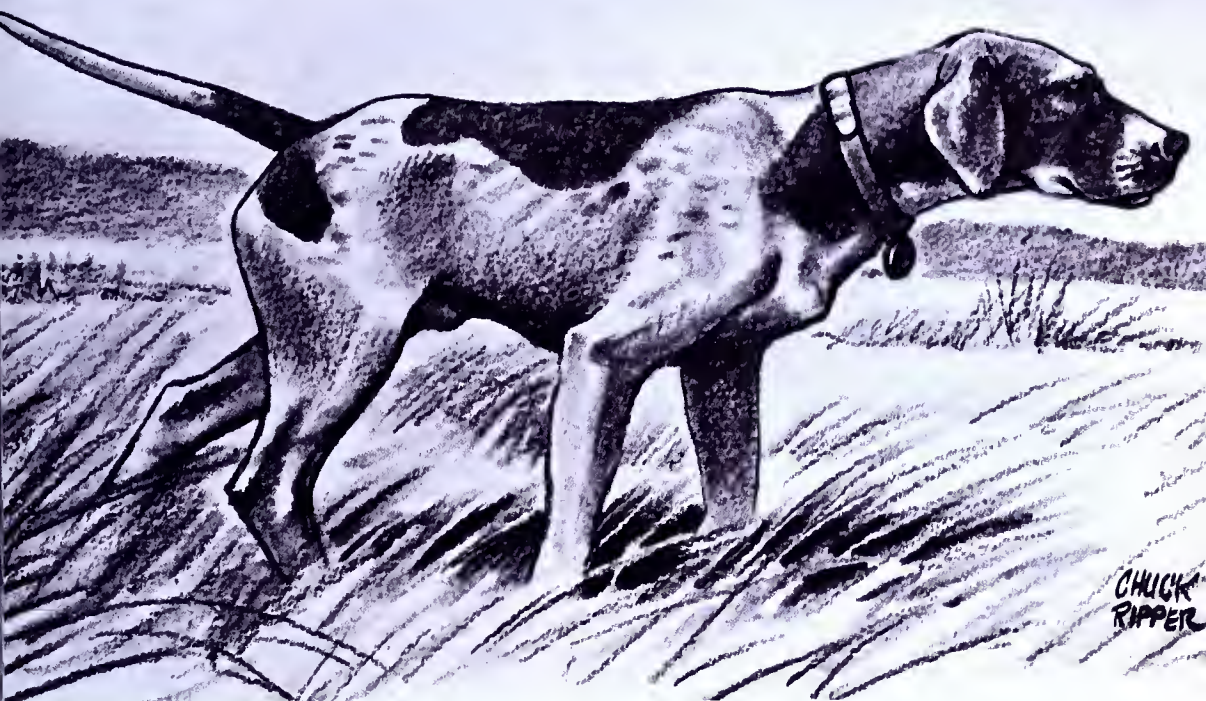
It is not unusual for several elk to be shot by mistake or illegally each deer season. However, there is little excuse for mistaking an elk for a deer, as a bull will weigh five to eight times as much as the average whitetail buck, and even a cow is four or five times as heavy. The penalty for illegally killing an elk in Pennsylvania is \$200.

That Pennsylvania's elk still grow outstanding racks is proved by the accompanying pictures of shed antlers picked up in the state during the past two years. So, even if it is not possible to have an open season on elk in Pennsylvania, we nevertheless can take pride in those few magnificent wapiti that still roam our mountains.—Ed.



***The Non-Hunter Cannot Understand the Hunter, Yet for All Their
Alleged Irreverence for Life, Hunters Have Done More Than Any Other
Group to Restore and Sustain Today's Wildlife Populations. Without Them,
No Effective Wildlife Conservation Programs Would Exist Today.***

IT'S NO SECRET that a wave of anti-hunting sentiment is building behind the current anti-gun legislation. Some of it is being directed by organized protectionist groups. Most of it stems from critics who don't really want to protect anything, but who feel uneasy about sharing society with men who shoot guns at wild animals and seem to enjoy it. I have never known a militant critic of hunting who really knew anything about hunting, and it's hard to talk to such a man. It's even harder when you're a hunter who doesn't understand himself—and most of us don't. I am puzzled by the forces that lead me afield. But I am more mystified by the double-standard emotions of the anti-hunter. I remember a raw autumn evening when I had just come in from a pheasant hunt. A neighbor was passing, and stopped to talk. She looked at the brace of rooster pheasants in my hand and said: "Oh, I feel so sorry for the poor things! How could you bear to shoot them?" Before I dressed those birds that evening, I sat for a long time and looked at them. But my neighbor and I must have seen different pheasants. Try as I might, I could find nothing in those birds to pity.



THE HUNTERS . . .

By John Madson

They were splendid ring-necked cocks. Each had been the warlord of his own covert—smart, tough, bold and strong. They were birds of great integrity, thriving in our northern latitudes under conditions that no other game bird today can endure in numbers. I sat there and tried to relate those dead birds to human tragedy, and failed. I didn't feel debased for having shot them. It had been a hard hunt, and the pheasants and I had conducted ourselves well. The events of the day had been closely woven into a fabric of action and response, and there was no place in that ancient fabric for kindly neighbor ladies. Furthermore, I knew those pheasants far better than did my neighbor, and had infinitely greater reason to respect them. I had felt no claim on those birds as I went to hunt them. My hunting license was a lottery ticket, not a coupon for goods receivable. My neighbor had just as much moral right as I to enjoy those pheasants, yet she had never chosen to exercise her option. Their actual existence was apparently a matter of indifference to her. She said she pitied them, but she would have been just as happy if there wasn't a pheasant in the world. I did not pity them, and even sought to kill them,

But I would be bitterly unhappy if there were no more pheasants in our cornfields.

Pheasants have always been part of the spirit of place in my home country, and hunting them is part of the spirit of place, and perhaps my six-mile hunt through thickets and marsh edges was greater testimony to the value of those pheasants than was pity.

Admittedly, a hunter no longer rationalizes a day afield with survival. He may condone his acts with talk of exercise, relaxation, or communion with nature. Yet, many sorts of outdoor excursions will fill those needs, and some do so even better than hunting.

But few can meet the need that so many men have for elemental competition and the ancient, basic tests of manhood. In its fullest sense, hunting is an atavistic game that bridges time and permits our plunging race to wistfully reach back and touch our racial childhood and the old toys of our youth.

The hunter often deludes himself and buries his motives. Yet, his ultimate motive in hunting is to kill. All other reasons, however important, are secondary. Remove the conscious intention of shooting something and a hunt is simply a walk in the country.

There are days when that's all the hunter wants — an aimless walk through good scenery. All predators have days like that. The grizzly may find a snowfield to slide on; the otter may play with a pebble. A man may be distracted by fall mushrooms or a patch of blueberries.

But those are exceptional days, even though they are vital to a hunter's experience. For always there must be a gun in the hunting picture, and the possibility of using it with effect. I doubt that any birdless hunter, however lovely the October fields and however fine the dogwork, is quite as happy as if he had made at least one clean double on a covey rise.

It is this death motive that is so inde-

fensible to our critics, and logically so, for the non-hunter may equate hunting only with the death factor—the only aspect of the sport that he understands.

But while killing may be the endpoint of hunting, this death-dealing is so bound with tradition, ethics, and poignant yesterdays that the sport becomes a unique folkway. The emotions attending it are infinitely subtle and personal.

Non-Hunters Over-Simplify

The non-hunter is often unable to comprehend these emotions and is likely to oversimplify hunting. He may regard hunting as a moral offense—a basic irreverence for life. But the veteran hunter, beyond an outspoken love for his sport, has few such clear-cut convictions. His original motives have become fused in a sort of spiritual matrix that defies analysis. He cannot explain hunting's deep appeal. He only knows that hunting is an integral part of his world and spirit, and that neither would be whole without it.

If hunting were a simple act of butchery, there would be few sports hunters today. It is the host of attendant factors that lift sport hunting beyond mere killing, and invest it with an elemental dignity that is unique.

Ask an old hunter if he goes afield just to kill, and he'll probably sputter with indignation. Ask him, then, why he really hunts. He'll likely stammer like a schoolboy, searching for words and making lame remarks about "being out amongst 'em in prime country," and if the hour is late and the company convivial, his eyes will kindle with old dreams and old doings and he will soar off in a long, rambling anecdote that really conveys nothing—except to another hunter.

Yet, such an experienced hunter would never claim that hunting is good for all men —nor that all men are good for hunting.

Hunting has the connotation of vigor and manliness, but such blanket attributes are often as false as the blanket condemnations of the anti-hunters. There are social hunters, bent on bagging an admission ticket to the doggy set. There are dilettantes who dabble at hunting as they dabble at everything else. There are lost men seeking proof of themselves in the field because they have failed to find such proof in business, war, or love. There are tiny men who feel larger with guns, and boors who ride roughshod over common right and decency. Hunters are only men, after all, and they mirror all of men's common failings.

John B. Madson is Assistant Director of Conservation of the Winchester Western Division, Olin Mathieson Chemical Corporation. He is the author and co-author of many books on wildlife and game management. This article is from a talk given to the National Rifle Association.



I LOOKED AT THOSE BIRDS for a long time, but could find nothing to pity. They were splendid ringnecks . . . smart, tough, bold, strong.

But the individual is overshadowed by the aggregate, and the great faceless American hunter remains one of this nation's strongest and most remarkable natural resources.

This aggregate hunter is a simple man, with simple aims and tastes. He may be an ascetic to a marked degree, and as solid as the rough land he hunts. He is outspoken and quickly roused by intrusions on his rights or privacy. In many ways he is the prototype North American, embodying the attributes of a younger nation. He is a citizen who has kept his nationalistic youth in a society that is becoming sophisticated and jaded. He is an anachronism of a sort we should cherish.

Within his own lifetime, this hunter is likely to reflect his own racial history. As a boy with a gun, he may have sought tribal honor by shooting all he could, equating manhood and recognition with the weight of his game bag. Many hunters never grow beyond this.

But with his years afield, the genuine hunter achieves something more than bag limits. He gains a personal tradition, and a measure of freedom that he can find no-

where else. He becomes an unbridled sentimentalist cherishing old guns, old partners, old dogs, old boots, and memories that are burnished a little brighter with each year's telling, and he becomes a walking litany of the "good old days."

He may be immature, as his critics claim, for the real hunter seems to seek elemental tests that most civilized men try hard to avoid. Such a hunter develops a marked ability to endure stress. In thirty years afield, I have never heard a real hunter whine in the face of physical adversity that he knew he could not change. If Hemingway's "grace under pressure" definition of bravery is valid, then most real hunters are probably brave. In their own parlance, they are "good men to walk the river with." I am also convinced that they can be good men to fight wars beside.

There is no such thing as the stock hero or the stock coward in combat. All men are cowards; all men are brave.

Taking men as they come, I'd as soon throw in with a seasoned hunter as anyone else. When bellies are empty and tonight's bed is a muddy pit, the hunter isn't likely

to melt from self-pity. Hunger, cold, weariness and uncertainty are old companions, and he knows how to meet them.

He also knows the gun, although this may be less important in a soldier than being able to endure long periods of critical stress. But when a lifelong skill at arms is combined with a stolid ability to endure, there's a first-class fighting man in the making.

I grew up with a shirt-tail cousin who looked like an Apache delinquent and thought like a red fox. If Russ ever held a job in his teens, I never knew of it. He didn't contribute much to his community. But, oh, he was a grand rifle shot!

At seventeen he was hickory-tough and tireless, with an infinite capacity to endure. He enlisted in 1942, and wrote home just often enough to reveal that he had been assigned to a sniper unit in the South Pacific.

When I saw him again in 1945 he was trained fine as a whiplash, eyes yellow from atabrine and face burned dark by the tropics. He had earned his pay as a sniper for two years and had survived the terrible island campaigns without a scratch, either physical or mental. If any man ever entered his war equipped to survive, it had been Russ.

These are grim attributes of hunting, but

I HAVE NOT HEARD a real hunter whine in the face of physical stress that most civilized men avoid. They know hunger, cold, weariness, uncertainty. . . .



it has been my experience that they are valid ones. So long as men practice the art of war, the art of hunting will help school them in the old disciplines of weapons, wits and will.

But the greatest attributes of hunting do not lie in anything as cold and empty as war.

Hunting can develop strange reserves in the men who go afield all their lives—reserves that accrue interest and can be drawn upon in times of spiritual bankruptcy. It develops a fiber of purpose that justifies yesterday's doings and gives substance to tomorrow's.

Promise of Adventure

To the small boy who hides behind the door long after bedtime to eavesdrop on the old hunting yarns, hunting is the promise of manly adventure. To the old man who has hung up his guns, hunting evokes a multitude of lofty days, the shadowy corps of men and beasts that he knew in the quiet places, and the personal tests that he met there.

His sport is often branded as callous, as a childish lack of depth and compassion. For how can a man deliberately kill for pleasure and still profess any reverence for life?

The hunter is ill-equipped to defend himself against such accusations, for he is rarely an intellectual and he rarely "loves" or humanizes animals.

Instead, he allows these creatures the dignity of their own identities. They are simply the wild ones, each endowed with superb gifts for survival, and for the hunter that is enough. His animals do not inhabit enchanted forests, and are not imbued with human virtues and mischiefs. He knows that Chippy Chipmunk is a vector of tularemia, and that Bambi becomes a swollen-necked fury during the Rutting Moon. He knows that wild creatures have guts and blood, that they starve, that they are ravaged by sweeping epizootics, that they freeze and suffer and die, and that of all the deaths they may die, the hunter-death is infinitely the most merciful. Yet, in knowing the wild ones for what they are, the hunter feels a bond that is less tenderness and tears and more respect and pride.

The protectionist is inclined to think as a civilized moralist, and observe lofty motives of compassion. The dedicated hunter is simpler and more direct. In regard to life-taking he may seem to be amoral. However, he kills within a rigid ethical framework, out

of a basic need to participate in wildness in a traditional role. And it is not the place of our critics to say that this role is obsolete in modern culture.

As long as wildlife has such enemies as the modern hunter, it hardly needs such friends as the outdoor moralist.

For all his alleged irreverence for life, the hunter has done the most to restore and sustain today's wildlife populations. Without him, it is unlikely that any effective wildlife conservation programs would exist today. The hunter himself is directly responsible for the great modern populations of deer, antelope, pheasant, geese, elk, and a host of non-game creatures associated with the wildlife habitat that the hunter has caused.

Hunting Not Harmful

It is inaccurate to say that if it had not been for hunting in the first place, wildlife would never have had to be conserved. America's original wildlife was not spent by the sports hunter. It was decimated by relentless shooting by settlers, by commercial hunters, and by vast changes in the habitat.

Yet, the modern hunter must expect to be criticized, for he has openly assumed responsibility for game species. He is apparently the only one willing to do so. He can expect to receive full blame if wildlife declines, and no credit if it increases.

Brilliant arguments against hunting have been advanced by such thinkers as Albert Schweitzer, who once said that man is really ethical only when he goes out of his way to avoid injury to any living thing.

In his own fashion the modern hunter may be among the most ethical, for the consummate injury to any living thing is extermination. By causing and supporting professional wildlife conservation, it is most unlikely that the modern hunter will ever cause the extinction of another animal species. If anything, he has declared open war on the broad cultural economic factors



SPORT HUNTING does not harm wildlife numbers. The hunter is responsible for today's great populations of deer, antelope, elk, pheasant, geese. . . .

that threaten North America's wildlife today.

Dr. C. H. D. Clarke of the Ontario Department of Lands and Forests, offers this rebuttal to Dr. Schweitzer: "Any concept of life that does not comprehend the whole organic cycle is inadequate. The reluctance to accept death, evidently a predominant Schweitzer characteristic, reveals an unseeing devotion to the vital spark. It is death that makes it glow, measure for measure."

Today's hunter will not snuff out that spark. If anything, he will feed and fan it—whatever his motives. And when the spark glows most brightly he will go out on his own as he always has, and let it light his way through the best places of North America.

Report Tagged or Banded Birds and Mammals

Tagged or banded birds and mammals play a major role in game management, and the Pennsylvania Game Commission asks the cooperation of the public in reporting marked wildlife to appropriate agencies or organizations.

Federal and state agencies, sportsmen's groups, etc., regularly tag or band birds and mammals for various studies. Hunters can help assure the future of their sport by reporting the band or tag numbers and location and date of bagging or finding tagged or banded wildlife to the agency or organization listed on the tag or band.

*Who Carried the Dickert Rifle From Lancaster
To Texas? That Is the . . .*

Mystery at the Alamo

By Edith L. Hollan

FRONT AND CENTER in the Alamo today, a Pennsylvania Rifle rests in lonely splendor in its own glass showcase. It is the only rifle now housed at the shrine which is known to have been used in the famous battle, and its history from that dark day of defeat in 1836 to the

present is thoroughly catalogued. The barrel itself proclaims its maker as "J. Dickert," which opens up considerable information as to its origin, Jacob Dickert, of Lancaster, Pa., having been one of the foremost gunsmiths of his day. But to the professional historian, the amateur historian, and the ordinary gun lover with a flair for history, this intriguing question remains: Who carried the rifle on its long road from Pennsylvania to the violence that was Texas?

Jacob Dickert was born in Germany in 1740. He came to America in 1748 and established his gun shop in Lancaster in 1762. There he became famous for his finely crafted guns, which he made until his death in 1822, a full fourteen years before the battle at the Alamo. Meticulous as he was in his handwork, he did not keep records of the guns he sold. If he had, the description of this rifle would have read much the same as the one in its showcase in San Antonio today:

Item name: Kentucky Flintlock Rifle. *Caliber* .58. *Barrel Length:* 45 $\frac{1}{8}$ ". *O.A. Length:* 60 $\frac{3}{4}$ ".

Serial No.: None. *Type Action:* Side lock, flintlock marked "T./Ketland/ & Co. (3 lines).

Alterations, Accessories: Striped ramrod. 1 large powder horn, unmarked, 14 tacks in wooden base, 15 $\frac{1}{8}$ " along outside curve, leather strap, wood stopper. 1 small primer horn, unmarked, 6 tacks in wooden base, 8" along outside curve, leather strap and wood stopper.

Sights: Silver blade front, fixed open rear.

Condition: Good.

Description: Octagon barrel, full curly



THE DICKERT RIFLE now enshrined at the Alamo is shown by Mrs. Hollan.

maple stock. On barrel flat, "J Dickert." Single trigger, brass mounted with ornate brass patch box on obverse, oval brass insert at top of wrist, German silver star on cheekpiece, 8 German silver inlays on forearm.

Such was the gun that first saw the light of day in Lancaster and, years later, spoke its last in defense of the Alamo.

Thirteen-Day Siege

The siege of the Alamo lasted thirteen days. In that time, 183 Texan defenders inflicted over 1600 casualties on Santa Anna's Mexican army of 4000. Thus, as the smoke of battle cleared just after dawn on March 6, Santa Anna was in no mood to handle gently the mortal remains of his enemies. In one final gesture of fury, he ordered the local peons to stack the Texans' bodies in one huge funeral pyre and burn them. One member of this forced labor detail spotted the Dickert rifle and hastily hid it under a pile of straw for safekeeping before bending his back to the grisly task. He retrieved his prize afterward, but some time later turned it over to Texan Colonel Fred W. Johnson.

In 1839, Colonel Johnson formally presented the rifle to the first mayor of St. Louis, William Carr Lane. From Lane, it passed to his successor as mayor, William L. Ewing, and later to Henry Kock. Colonel Walter T. Siegmund of East Alton, Ill., purchased it from Kock's descendants and returned it as a gift to the Alamo.

There was great hope in 1947, at the time of the gun's presentation to the Alamo, that it had been identified as Davy Crockett's famous "Betsey." However, careful research traced the excitement to a mere chance remark by two Crockett great-grandsons that this "looked like" the rifle seen in sketches of their famous forebear, and the furor died as quickly as it had flared.

Davy Crockett had, indeed, been presented with a rifle some years be-

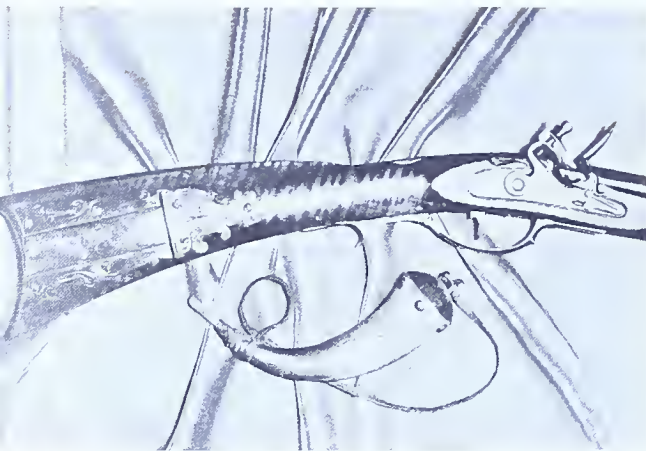
fore the battle of the Alamo, by the Young Whigs of Philadelphia, and it may very well have been a Dickert. But Crockett's mood on his departure for Texas had been one of complete repudiation of his political past; he felt he had been ill-used by his fellow Congressmen and the voters of his district as well. He recently had told the latter that if they didn't re-elect him, "they could go to hell and he would go to Texas." They didn't, and he did, making quite a point of taking along his "Old Betsey," as opposed to "Pretty Betsey," the gift of the Whigs.

Who, then, carried Mr. Dickert's rifle all that long way to the Alamo? The cause of the Texas settlers had flashed across the country like a streak of lightning and kindled extraordinary response in the hearts of a people not too far removed from the American Revolution. Freedom was held precious—even the freedom of people far away—and farmers, artisans, teachers, doctors and lawyers headed southwest in the cause of Texas liberty. At least ten who would die there were Pennsylvanians.

Ten Pennsylvanians

Once it was thought only eight Pennsylvanians were in the Alamo; it may turn out there were more than the ten now known. The inaccuracies, which are still being corrected today, were due to the type of records kept by the government of Mexico. Each man who entered Texas while it was still a Mexican possession was required to declare intent of becoming a citizen of Mexico and to register his name and previous address. Originally, eight men listed "Pennsylvania," but further information, some of it quite recent, showed that two who had registered "Tennessee" were actually Pennsylvanians who had stopped briefly in Tennessee to join Crockett's group.

As the list stands now, Pennsylvanians who fought at the Alamo were: James Brown, John Cane, David



FINE BRASSWORK of 58-cal. flintlock Dickert long rifle is shown in this closeup of stock.

F. Cummings, Samuel Holloway, William Johnson, William McDowell, John Purdy Reynolds, John M. Thruston, Hiram J. Williamson, and David Wilson. Many of these left no known record, even as to names of their hometowns, but it is always possible to speculate on the ones who did leave a trail.

Dr. John Purdy Reynolds is believed to have been an undergraduate at Franklin College in Lancaster. Did he buy a Dickert rifle then? Or later, when he studied medicine in Philadelphia? From his home in Lewistown, Mifflin County, he moved to Tennessee and helped to found the town of Mifflin there. And in 1835 he assured the editor of a local Tennessee newspaper that there was no mistake: He was going to Texas "to join the fight for Texas independence."

Written records from the Alamo under siege were limited to fairly cryptic appeals for support (which never came) and one eloquent letter from Colonel Travis, in command. But it seems reasonable to surmise that the medical training of the two or three doctors present was pressed into use. Almost before the first shot was fired, Jim Bowie became deathly ill—typhoid pneumonia, they called it later—and had to be isolated in a little side room off the chapel. Just a little

imagination conjures up a picture of Dr. Reynolds propping his Dickert rifle in the corner as he entered to examine Bowie.

Or did David P. Cummings, Jr., from Connellsville, Pa., carry the gun into the fortress? Cummings had kept his father abreast of the Texas developments in long letters which were often printed in full in *The Republican*, a Lewistown newspaper. He was surveying land near San Antonio for himself and others (grants of 1100 acres given to single men, 4428 acres to married) when the call came for volunteers to man the Alamo. Later, his brothers John Andrew and Jonathan were to arrive in Texas to help defeat Santa Anna at San Jacinto, and thus avenge his death.

From the Juniata Valley had come Reynolds' close friend, William McDowell. Did he bring a Dickert rifle to the fray? Or John M. Thruston, christened Mountjoy Lockett Thruston? Or was Dickert's handiwork carried westward a full generation earlier by some Revolutionary veteran—or even by some long-departed Loyalist fleeing the Revolution over the arduous Wilderness Trail? Until the attic of someone—perhaps someone who reads this article—yields up documents still forgotten, history will not know.

Meanwhile, the Jacob Dickert rifle lies in hallowed sanctuary at the Alamo, invoking long thoughts of the past.

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The Black Bear in the East

By Gary C. Wakefield and James S. Lindzey, Ph.D.

THE BLACK BEAR (*Euarctos americanus*) has challenged Keystone hunters for many years. This wary game animal provides Pennsylvania with a sporting opportunity equaled in only a few other states in the East. Unlike the deer, which most Northeastern states are studying to insure its future as a recreational asset, the bear has until recently been given little research attention. Only New York and Virginia have carried out extensive projects in the East.

The objective of the black bear study initiated by the Pennsylvania Game Commission and the Pennsylvania Cooperative Wildlife Research Unit is to find means of assuring the survival of the bear as a sporting animal in a period of increasing human pressures. The basis for any such program must be detailed information about the bear and his range. This article reviews briefly some of the things known about the bear, describes some of the problems needing attention and reports some of the fact finding methods being used.

It is interesting that the combined harvest in the four principal bear hunting states in the East (New York, Pennsylvania, Virginia and West Virginia), has shown a general upward trend since 1940. Figure I compares the bear harvests in these four states. (Pre-1956 data for West Virginia is not available.) It can be seen that Pennsylvania has long been the major bear producing state in the East. Recently, New York and Virginia have increased their annual harvest while West Virginia has changed little. All three of the states have longer seasons than Pennsylvania and in some cases dogs are used in the hunt. Despite these limitations in Pennsylvania, our

state has always taken a large number of bears. The harvest has fluctuated noticeably, as is shown in the Figure.

Virginia appears to be in a population decline, while New York, West Virginia and Pennsylvania exhibit the common high-low harvest fluctuations. Except where unusual weather conditions or national or world crises interfere, years of high bear harvest are followed by years of low bear harvest. This trend, as yet unexplained, can be clearly seen for Pennsylvania, New York and West Virginia.

Figure I also indicates that since the end of the Second World War the

ARTHUR STHALI, 16, of Johnsonburg, bagged this 460-pound bear in Elk County—an outstanding trophy for a young hunter.

Photo by Johnsonburg Press



bear take in Pennsylvania has been gradually increasing. Is this trend due to a higher bear population or to increased hunting pressure and a tapping of the bear reserve? We believe it is the result of a combination of heavier hunting pressure, favorable weather conditions and restricted food availability. It is easy to see that more hunters in the woods may result in a greater bear kill. However, the number of hunters and their effectiveness is influenced by weather conditions and the amount of food available to the bears. A good tracking snow is a great advantage to bear hunters. On the other hand, if food conditions are good, the bruins remain scattered throughout the range, often in relatively inaccessible haunts throughout the hunting season. Contrariwise, if food is scarce, the bears become more vulnerable to hunters because they move about more and may concentrate where food is available in areas also accessible to hunters.

Another important problem, needing solution if we are to have a planned management program for the bear, is to find the reasons for bear movements, distances traveled and types of habitat or range preferred.

Better Understanding Needed

As more hunters seek a bear trophy, the need for a better understanding of the bear's requirements becomes more urgent. For the past half-century or more, we have had excellent success with a one-week bear hunting season. However, the length of season and other management practices are usually based on estimated populations. (Estimates of the statewide bear populations have been highly variable and often have had little relationship to actual hunter harvests. It is therefore obvious that we must find better ways of censusing bears if we are to provide protection for the all-important breeding stock.) The age and sex structure of the population must also be known if harvests are to be ad-

justed to protect the population. (For example, if we find that the percentage of hunter-killed bears is disproportionately made up of bears in the two-year-old class, we suspect we are harvesting too heavily, since bears don't breed until they are at least two years old and the kill should show a reasonable proportion of bears over two years of age.)

Immediate Objectives

The immediate objectives of this study are to obtain range and movement information and the age and sex structure of the bear population. The study, initiated in June, 1967, will continue for several years.

Small segments of the bear range have been selected as study areas and information is being gathered on the age and sex structure of the populations as compared to the kill, the habitat and food requirements of the bear, movement patterns—both seasonal and daily—and the success of hunters during the bear season. We also are learning about methods employed by sportsmen in hunting the black bear and problems associated with the regulation of the kill of bears.

Through cooperation with Game Commission field officers, eight nuisance bears were immobilized, ear tagged and released during the fall of 1967. Some of these bears were weighed on portable scales and several were tattooed to insure identification in case the ear tags ripped out. Tooth impressions to aid in age determination also were taken on one bear. One of these bears later was killed by a hunter 16 miles southwest of the point where he was captured. A second was killed a year later by a car on the Shortway two miles from the site of trapping but 21 miles from the place where he had been released.

In addition to nuisance bear tagging, bears also are captured, tagged and released on the primary bear study area, the Wycoff Run watershed in Cameron County. Two bear check

Figure 1

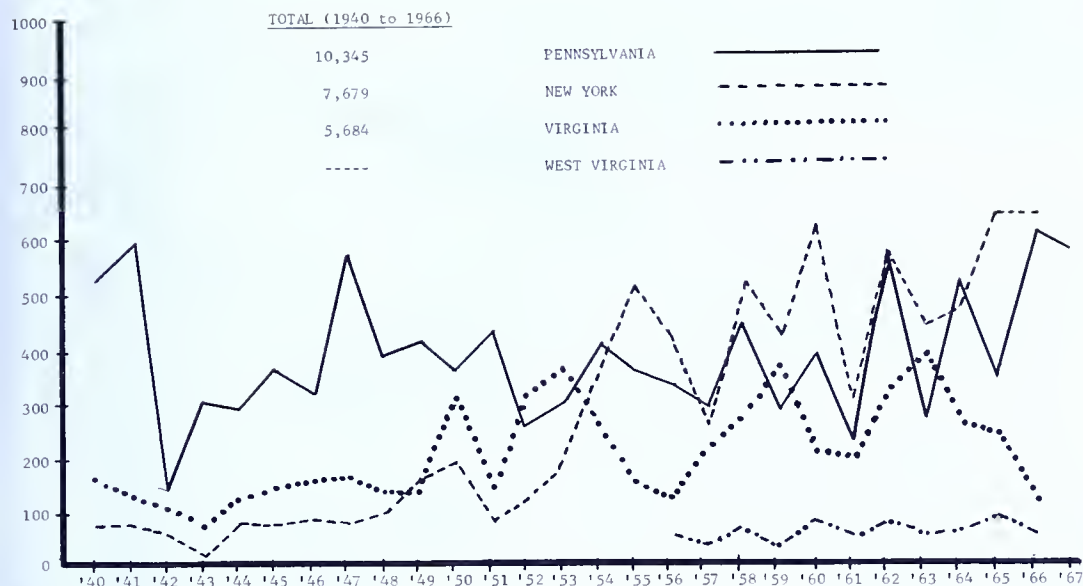


CHART GIVES GRAPHIC representation of bear harvests in four Eastern states over 28-year period.

stations are operated on the study area during the bear season to obtain an accurate record of bears taken from the study area. Through the cooperation of hunters who donate bear skulls for aging, data on the age structure of the bear population is determined. (By sectioning the canine teeth, bears can be aged within one-half year in most cases.) The bear population of the study area is not now known, but by using a system of constant searching, recording sign and observations, capture and markings, and recording kills, reasonable estimates are being developed. Further assistance in determining the structure and the status of the statewide bear population is being provided by interested hunters and taxidermists throughout the state who have donated bear skulls. By comparing data from the study area with data from bears killed throughout the state, it is hoped that study areas will prove representative and can be used as an index for the entire state.

During the spring, summer and fall of 1968, live-trapping was conducted on the primary study area. In addition to recording age, sex, weight, and un-

usual characteristics, all bears are tagged and some are equipped with a tiny radio transmitter to aid in relocating them and determining the extent of their movements.

Bears are quite scarce on the Wycoff Run area and only two have been captured and marked. One is wearing a transmitter in a collar, but at this writing we have not picked up his signal. If you see a 300-lb. wild black bear with a collar, please contact the Wildlife Research Unit at Penn State. It will also help if readers will report all bear observations to their local game protector, giving the time and place of the sighting, since such records will be of assistance in determining the population numbers and bear use of different portions of the range in Pennsylvania.

Gary C. Wakefield, senior author of this article, is a graduate student with Pennsylvania State University's Co-operative Wildlife Research Unit, and James S. Lindzey is the leader of the unit. This article is research paper Number 137.



To Predators They Are Bread and Butter, to Ecologists and Game Managers They Are, at Times, an Enigma, But to Most of Us They Are . . .

Just Rabbits

By Albert G. Shimmel

I WAS AWARE of a solid jolt of recoil, the acrid smell of burned powder and the sight of the rabbit, which seconds before had been streaking toward the safety of the rail fence, lying on the snow. I thrust the gun back into my father's hands and raced to pick up my first cottontail. I was so excited that it was with difficulty I held the hind legs while he performed the ritual of field dressing. I remember the pleasure lines that creased the corners of his gray eyes as he hung it from my belt to be carried home.

I had been permitted to come on this Christmas hunt although not old enough to be trusted alone with a gun. When father discovered this bunny, sitting under a snow-covered tuft of grass, he handed his gun to me and then tossed a dead branch to dislodge the quarry. . . .

The hill pastures were enclosed by stump and rail fences where blackberry canes, sumac and wild grapes colonized protected corners. The pasture area was dotted with pine stumps in various stages of decay. Each stump was fringed with low blueberry bushes. The cottontails found the habitat to their liking. They fed on the succulent grass in the summer then turned their attention to the rich bark and canes in winter. They found convenient shelter from the cold in one of the numerous woodchuck dens along the fencerows and timberlot edges.

Killing frosts marked the beginning of the next hunting season. While I was now permitted to carry a 22 rifle when accompanying my father, firearms were strictly forbidden except under his supervision. A friend who

lived on the neighboring farm labored under the same restrictions. Together we evolved a procedure to obtain the ingredients for a rabbit pie.

The pasture cottontails often chose resting forms close to the base of the stumps. Here, partly screened by the blueberry bushes, they were undisturbed by the livestock. They apparently felt secure, as animal predators rarely ventured to cross the open grassland. We limited our hunting to the blueberry bushes that surrounded the stumps. Our arms were homemade slingshots and our ammunition the hard-baked clay marbles called "commies." These we accumulated in sufficient quantities by playing "keeps" with our less skillful school friends. Practice made and kept us proficient.

Toured Pastures

Each Saturday after chores, we made a tour of the pastures of our respective farms. It was a rare day when our marksmanship failed to produce a rabbit or two each. Today, some would consider our hunting a bit unethical, but we were interested in results and used the commie at close range as a means to an end. That end was a platter of fried rabbit or a rabbit pie. When our Sunday School teacher pointed out the fact that the Israelites were forbidden to eat rabbit (Leviticus 11,6), we were sorry for them.

Winter drove our game from the pasture to the protection of the woods and thickets. Here we were not so consistently successful. We had already thinned their ranks and the heavy cover deflected our projectiles.

At 16 I acquired both a gun and a



COTTONTAILS OFTEN GATHER on crusted snow and spend an hour or more in strenuous play, like children at their games.

dog. The gun, a full choke 12 gauge, to use the seller's words, "Shoots most like a rifle and kicks like a mule." The dog, "beagle and fox dog," was a diminutive hound with short legs, an excellent nose and a voice that would have been a credit to a hound many times her size. She drove bunnies to the gun with such efficiency that my friends saw to it that I did not lack companionship on my hunts.

Shotgun Reserved

The shotgun was reserved for the special occasions when my slender earnings permitted the extravagance of a box of black-hulled Climax shells. At other times a fifteen-cent box of Shorts for the 22 proved adequate. In retrospect, my preference for the rifle was also prompted by my dislike for the excessive recoil of the smooth-bore.

Purely selfish motives prompted my early observations of the rabbit. I

learned that on damp days when there were intermittent light showers they would run a dog to a frazzle. When during bright sunny weather we jumped rabbits that sought a hole almost before the race had begun, a storm was due within a few hours. During cold weather they preferred dens that had a southern exposure particularly if they were on the lee side of hedges or brush patches. They commonly took the sun even though temperatures were quite low.

The cottontail is a crepuscular animal, meaning it is most active at dawn and dusk. Moonlight has a curious fascination for them. They gather on the crusted snow in two's and three's until at times they number a dozen or more. Unmindful of danger, they spend an hour or more in strenuous physical activity. One animal will lead the others in a dodging, twisting chase that confines itself to a restricted playground. At other times they seem to

move aimlessly in various directions. They cross and recross each other's paths like children playing cross tag. At times when collision seems inevitable, one will leap high and allow the other to pass underneath. Others leap into the air without apparent reason. Individuals stretch at full length and roll from side to side. It is always the back that comes in contact with the snow. This particular action is observed at other times of the year, particularly in spring. Sometimes they find a spot in loose sand or dust. This action is generally followed by grooming of the face and ears.

Purpose Unknown

Observers disagree as to the purpose of this winter socializing. Some believe it is a pre-mating ritual, while others contend that it is a form of play.

Although the potential life span of a cottontail is approximately 10 years, the mortality rate is so high that less than 15 percent live to complete their first year. In urban areas the house cat and automobile account for many deaths. Disease, parasites and limited food and cover keep the population within reasonable bounds. From December through March, a commuter kept tally over some three miles of road that connected two towns. He counted 91 rabbits during that period, traffic fatalities all.

In rural areas the cottontail's life is one of increased hazard. The nest, usually a slight depression in the ground, is blanketed with dry grass and hair from the mother's belly. There is a disadvantage to this. The hair is absorbent. A cold rain will wet the nest and the young may chill and die. A downpour will fill the nest and drown the helpless young.

Skunks, opossums, raccoons, weasels, dogs, house cats and snakes destroy young rabbits. Shrews, chipmunks and pheasants are occasionally guilty. Once they leave their nest, winged predators including hawks,

owls and crows are added to the list of enemies. Man, machinery and foxes take their toll. Competition for food and cover and disease limit populations. These the rabbit seeks to counter by sheer reproductive capacity.

The cottontail is not a particularly vocal animal but it does communicate with a variety of low growls and grunts. Its wailing scream, expressing terror or pain, has been publicized and imitated with mechanical calls to attract predators. I have heard it a number of times under natural conditions.

One evening at dusk several juvenile rabbits were playing between a grassy meadow and a riverside sandbar. Suddenly a horned owl stooped from a nearby silver maple. One of the group, caught in the open tried to dodge away. Just as the race ended the rabbit screamed. The sound, amplified by the water, echoed weirdly.



THE RABBIT'S SKULL is so constructed that each eye covers almost 180 degrees of vision—helpful in a world that seems full of his enemies.

Any disturbance of natural habitat puts the animal to a disadvantage. I was watching a marsh hawk quarter a newly cut meadow. The drying hay lay in heavy windrows. Suddenly the hawk dropped near a tussock that the mower had missed. I heard the scream



LESS THAN 15 percent of a rabbit population reaches its first birthday. Autos, predators, disease and weather account for many.

of a rabbit. Even in full light of afternoon it had a hackle-raising quality.

One day a cottontail running ahead of a dog attempted to squeeze through a woven wire fence that was thickly grown with brambles. It became caught and squealed repeatedly, apparently in fear of the dog. Luckily, I reached and freed it before the dog arrived. It disappeared down a hole almost immediately.

In contrast, the behavior of another rabbit shows a lack of fear. A stray dog entered the garden. The rabbit immediately hopped along a low stone wall and hid under a yew hedge. The dog searched fruitlessly, then retraced its steps. The rabbit hopped to the edge of the evergreens, sat up and watched for a few moments, then calmly returned to its place.

This bunny is one of four that come consistently to our feeder during the winter. We put out small piles of corn for their convenience. One evening other obligations demanded my at-

tention and as a result the feeders remained empty. Early next morning I went out to attend to this chore. Imagine my surprise when one of the rabbits came running to meet me. She was not more than six feet away when she stopped and looked expectantly at the corn I carried. I tossed a handful that fell all around her. She began to eat without hesitation. This became an established routine that was not broken until family duties kept her away. She still makes occasional courtesy calls. The others would disappear at a run whenever we appeared.

Individual Traits

Cottontails have marked individual traits. The dominant male is aggressive and suspicious. One sits under a clump of oriental poppies until all the others have fed, and then comes out very cautiously. Should one of the others come again it will retreat to its position until all is clear. A juvenile of a late brood followed its mother until it was nearly as large as she. It had very catholic tastes. Each evening it entered the garden, cut and ate a single stem of fennel before moving over to a sunny slope to finish its meal of clover and plantains. It would then turn its belly to the sun and doze until evening. When its mother (we knew her by a split ear) came, it would feed with her until dark. This was particularly interesting when we observed that other feeding rabbits seldom tolerated another within three yards.

Rabbits have a well developed sense of smell. They use it to trail each other and to find food. Odor of a dog or a human apparently goes unnoticed. I have had them run over my feet as I stood motionless. Another sat so close to a photography blind that the lens which focused to three feet was not usable. Surely there was plenty of scent here, yet the rabbit paid no attention. Apparently it places more dependence on sight and hearing.

Rabbits seem always aware of the approach of another of their kind,

even over long distances. We have watched them feeding and seen one stop and listen. Soon another emerged from the evergreens almost a hundred yards away. They are less alert in the summer, depending on natural cover and tolerating others of their own kind at closer range.

The skull of the rabbit is so constructed that each eye covers almost 180 degrees of vision. It sees ahead, to the side, overhead and behind. Only its fat cheeks shut out what is directly below. It sees the world in monochro-

matic shades of gray, having no color perception cones.

Pennsylvania is blessed with three sub-species of cottontails—the Eastern, *Sylvilagus floridanus mallurus*, the Merns, *Sylvilagus floridus mernsi*, and the New England, *Sylvilagus transitionalis*. The scientist classifies them, the sportsman hunts them, and little children love them. To the predators they are bread and butter, and to the ecologist and game manager they are, at times, an enigma. But to most of us they are . . . just rabbits.

IN IMPRESSIVE CEREMONIES at Marienville on November 6, Sam Light of Punxsutawney was inducted into the Field Trial Hall of Fame, an honor deriving from his years of devotion to the sport of field trials. The induction took place during the 1968 running of the Grand National Grouse Dog Championship, an event begun by Mr. Light a quarter-century ago. Over 100 field trial celebrities gathered to honor Mr. Light, who is famous for his Skyrocket line of English setters which have won more championships than any other line of that breed. The Hall of Fame Scroll and presentation speech were given by Herbert H. Cahoon of Pittsburgh, Pennsylvania's only other member of the Hall of Fame. Mr. Light also received the Game Commission's Conservation Award at this event. Shown below following the ceremony are Mrs. Elaine Light, Frederick M. Simpson, President of the Game Commission, Commissioner H. L. Buchanan, Mr. Light, and Commissioners Russell M. Lucas and James A. Thompson.





Muskrat Memories

By Carsten Ahrens

OF ALL THE wild furbearers I encountered in my boyhood on the farm, the muskrat had a special significance. The only way I could make money for myself was by trapping. I caught an occasional mink, a few raccoons, a number of skunks, but muskrats by the scores. Today, trappers in my old bailiwick complain that opossums blunder into their snares, but I didn't catch one; in my boyhood those marsupials hadn't spread to our end of the state.

There was considerable marsh around the edge of Dad's farm, and here at the age of eight I had my first trapline. My equipment consisted of a dozen Victor traps and forked stakes, two box traps, a hatchet, and a gunny sack. Slow Crick lost itself in the marshes, so I trapped for bank rats along the "crick" and for cabin rats in the cattails. A trap was placed under water at the opening of a tunnel by a cabin or into a bank. A box trap was ideal for this. It is a humane trap, for an animal, once inside, drowns immediately. But mine were homemade, heavy, awkward, and being made of wood, would stay in place only if I carried enough stones to weigh them down.

My trapping lore was learned by observing an old French Canadian. He always allowed his iron traps to stand in a strong solution made of the outer skins of black walnuts and water. This was supposed to remove the taint of man and restore a natural smell. This precaution was probably unnecessary. The muskrat is an easy animal to catch; it lacks the intelligence of a fox and the suspicious nature of a mink.

I observed from old Pierre that trapping was no gentle art; that one should set a trap so that the animal would drown quickly. Pierre wasn't

a kind soul; he just knew if the muskrat didn't die speedily, it might chew off its leg and escape.

Muskrats belong to that important order of mammals known as *Rodentia* (the rodents), which contains some 2000 species. This is more than any other mammalian order possesses. In addition to muskrats, the order includes valuable furbearers such as the beaver and chinchilla; game animals like hares, rabbits, and squirrels; and introduced pests like house mice and the black and Norway rats that came to America with the Founding Fathers. The order includes such mini-creatures as the meadow mice, and the South American capybara that may weigh as much as 90 pounds.

Important Links

But the family of rodents to which the muskrat belongs is composed of tiny animals that man usually finds beneficial because their teeming numbers make them important early links in intricate food chains which begin with simple plants and lead to the higher animals. Their presence cannot be overestimated in the web of life. Included are the white-footed, red-backed and deer mice; voles or meadow mice, and lemmings—all so small that their weights are measured in ounces—and the family's biggest beast, the muskrat, which is sort of an oversized meadow mouse weighing from two to four pounds.

Muskrats, like all rodents, are characterized by the big chisel-like front teeth—two up, two down—which makes them the "gnawing mammals." These teeth grow throughout the animal's lifetime, and considerable gnawing is necessary to keep them sufficiently worn down so they can function properly. These incisors do not meet; the upper pair slides over the lower.

The animal is about 16 inches long, plus a 10-inch hairless tail. Small ears and small, bright eyes are almost hidden in the fur. Actually, they're double furred, with a thick, soft inner coat through which grows the long, outer, guard-hair coat, glossy and stiff. In color, they range from light-brown to black. The legs seem shorter than they actually are, for they are partially concealed by the fur. The front feet are fitted for digging and the semi-webbed hind ones for swimming. While surface swimming, the animal has its eyes, ears and nose above water, and is at the apex of a great triangle that lengthens as the animal advances. But any sound or movement on your part will cause the swimmer to dive. One big fellow that we used to surprise in our old swimming hole would stay under water for so long we feared for his life. I remembered to bring a watch on one occasion and found he would remain under for 10 minutes. When we would plunge in, however, he would sneak out the farther end; probably he was too proud to swim with us.

Muskrats are natives of our conti-

MUSKRATS ARE characterized by their big, chisel-like front teeth—two up, two down—which make them "gnawing mammals." These teeth grow throughout the animal's life.



nent and can be found almost anywhere there is reasonably clean water in swamps, bogs, marshes, farm ponds, streams, canals, or ditches. Frequently they become a nuisance in the banks of farm ponds, ditches and irrigation canals.

Habitat

There is never any doubt whether a marsh is the habitat for muskrats. If the water is permanent, and not more than two or three feet deep, the domed cabins, composed of roots, stems, and leaves of water plants mixed with mud, protrude above the water. Leading out of such a lodge in several directions will be shallow trenches where the water will be more discolored, showing that a muskrat has recently passed, stirring up the mud. The cabin, which could have been the inspiration of the pioneer's "sod shanty on the claim," is often four or five feet across and just as high. Often the animals utilize a tree stump, an abandoned wreck of a boat, a dock, or a duck blind as a support about which to fashion the shelter. Inside, the lodge is a hollow compartment with adjoining chambers often filled with roots and bulbs for winter use. Out of sight and underneath is at least one opening for entering and leaving. Muskrats that live in burrows dug into banks will store winter supplies in side chambers. The animals do not hibernate but are more active when a mild spell breaks the monotony of cold. On a moonlit night it is an interesting sight to watch even the old muskrats engaged in sliding down the rounded cabin sides, taking turns in skidding into the water. I discovered they would use slides I constructed with a hoc, and by burying a trap at the base, I'm afraid I often introduced consternation and death into their merrymaking.

Open seasons for muskrats differ widely. My trapping period in years past began on November 15 and closed March 15. Then the skins were prime and of most value.

Trapping muskrats is cold work. After breaking the ice, a trap must be placed in the exits of tunnels that may be a foot or two below the surface. I wore a big coat so I could push up the sleeve to keep it from getting wet as my bare arm placed the trap in the frigid water. My hands and right arm were always roughly cracked, chapped and scaly in spite of an ointment Mother made that was mighty comforting.

The muskrat is easily skinned. I cut about the base of the tail and then made cuts to and around the hind legs. After this the skin was loosened and pulled off, inside out, over the animal's head, with occasional aid from the knife around the front feet, ears, eyes and mouth. Next, I shaped a cedar shingle in the form of a Gothic arch and stretched the hide, fur side inside, on it. If any fat clung to the pelt, it was removed. Then the taut skin was hung on a rafter in the packing house to dry. Since many farmers trapped during the winter, fur buyers were always about to purchase the furs that brought from five cents for a kit to 90 cents for a good prime hide. Today, the prices are better.

Home in Siberia

Although native to North America, the muskrat is now found around the Northern Hemisphere. It was introduced into Bohemia about the turn of the century and rapidly spread into other European countries, including the British Isles. That releasing of muskrats has since been considered a major catastrophe, and a ceaseless endeavor to exterminate the animals has followed. Only in Finland and the Soviet Union has the muskrat been



MUSKRATS SOMETIMES engage in games of tag, or make slippery slides on their lodges, down which they skid into the water.

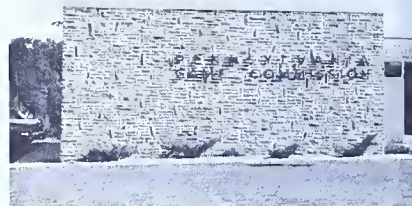
welcomed, and in vast stretches of Siberia it is now an important fur-bearer.

While millions of muskrat pelts are still garnered and sold in the United States, the demand has been greatly reduced by the manufacture of the pseudo-furs currently popular. It's no boon to the trappers but may be to the muskrats.

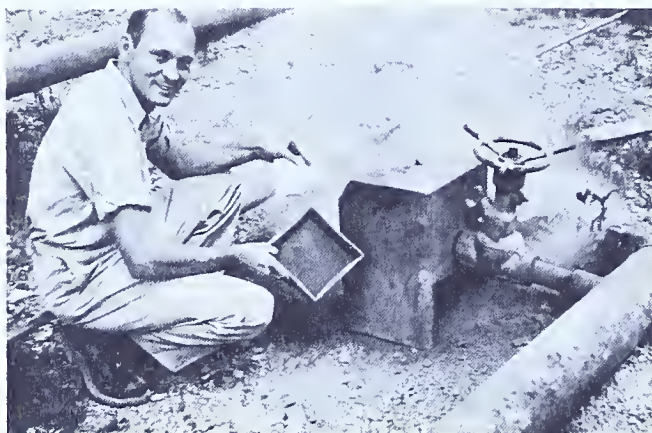
I must add that the flesh of these animals is sweet and tasty if properly prepared; the carcasses of my catches often became the *pièce de résistance* of a family meal. Through the years I have subscribed to my boyhood's community newspaper, and rarely a week passes in trapping season but a news item reports some local group's entertaining with a muskrat supper. Occasionally the event is termed a "marsh rabbit" repast.

Vegetarian

Contrary to common belief, the blue jay dines chiefly on vegetable matter. Animal food found in stomach samples consisted mostly of insects.



Here Is Yo



SAND AND GRAVEL are taken out of SGL 180, Pike County, top. Above, Bob Metzler collects dust samples for study. Below, rotary drilling rig on SGL 26, Blair County.

THE DIVISION OF M Game Commission in 1 agement of natural resour Lands. Its major responsibi and gas leases which allow natural gas produced from from these leases are used Field Division offices or oth State Game Lands—all cap

Other activities include t valuable deposits in, on or lished by the Commission. State Game Lands were re cuted to protect sportsme damage royalty to the Com as specified under state m

Division personnel are a ering pipelines and other paring agreements that res rentals to the Commission Commission's land manage and local land managers terms of agreements and c tat development work on S



CLEARING being made through wooded area in northcentral part of state, right, will permit installation of utility line. The "edges" created are highly beneficial to wildlife, as they provide many kinds of food, both natural and planted.





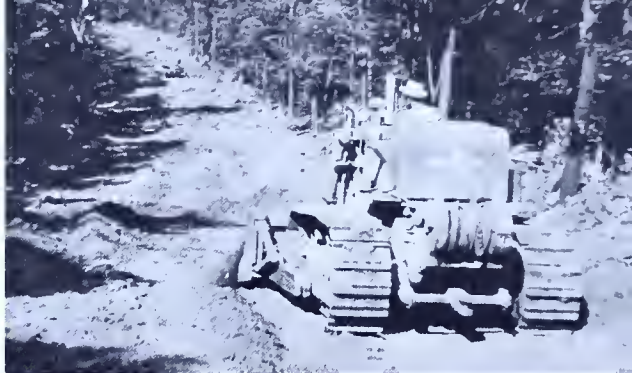
Commission

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in the Field Division offices
on of Minerals by enforcing
e activities with wildlife habi-
ds.

By John B. Sedam



OIL AND GAS funds pay for Field Division offices, such as one at Franklin, top left. Above, right-of-way for a pipeline is cleared on SGL 42, Westmoreland County.

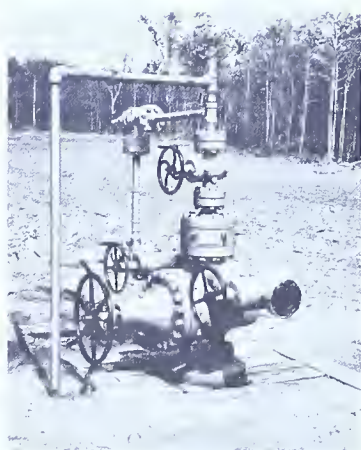


METERS RECORD natural gas flow at well on SGL 42, above. Below, a back-filled area which has been seeded with grass and clover to stabilize slope and provide wildlife food.





CREW ON rotary drilling rig, left. Above, before a natural gas well is "shut in," gas is burned for safety reasons.



A SHUT-IN NATURAL GAS WELL in Blair County, above left; right, electric transmission line crossing State Game Lands has been planted by the company with beneficial grasses. Below, gravel removed from Game Lands is sold for fill on Interstate Highway construction.





CABLE TOOL RIG, left, drilling oil well on SGL 93, Butler County. Above, stone being quarried in Luzerne County to be sold for highway base.



CREW SETS up rotary drilling rig, above. Right, fire clay mined on SGL 89, Clinton County, is loaded into truck for transport.





FIELD NOTES



Not Game

While posting Safety Zone signs on Farm Game Project 73, Harry Richards and James Cook saw two men walking through a field with rifles in their hands but no hunting licenses displayed. Another man in a truck drove off quickly. Harry and Jim followed. When he pulled into a farmer's drive and stopped, Harry asked, "What are you doing?" He said, "Hunting." He then explained that a steer had broken loose several days ago and was breaking fences and generally damaging property, and the men were out to find him.—Land Manager J. C. Hyde.



Discouraging

ELK COUNTY — While checking archery hunters in the Mud Lick Section of Benezette Township, I talked to two Pittsburgh area men who reported they had been enjoying their hunt until they spotted two large rattlesnakes curled up beside some rocks. From there they headed straight for their camper.—District Game Protector H. D. Harshbarger, Kersey.

Conspicuous Canines, But—

BEDFORD COUNTY — While checking hunters and talking with them on the opening day of small game season, I ran across two different parties, each party using a nice looking dog. This wasn't so strange in itself, but each of the two dogs was sporting a bright red jacket which was easily seen in the field. I don't think this is a bad idea, either, when you come to think about it. These people thought enough of their dogs to make sure they weren't mistaken for some species of game animal. But the strangest part of this was that, although these people thought "safety" for their dogs, none of the hunters with these dogs wore any conspicuous color themselves. It seems the safety of a dog is more sacred than human life.—Land Manager D. L. Stitt, New Enterprise.

Lost Camera

TIOGA COUNTY—About noon on the third day of the 1967 antlered deer season, E. M. Haday, 4705 Hurford Place, Chester, and some friends were returning to camp for lunch when they spotted several deer near the road. They got out to look at them and saw that all were does. Mr. Haday took some pictures and then, while talking, etc., laid down his camera for a moment—and somehow forgot it when they drove away. This was on Niles Valley Road in Middleburg Centre. If by any chance some hunter found the camera—a 35mm Argus C3 in a leather case—I know that Mr. Haday would be most grateful for its return.—District Game Protector F. A. Bernstein, Knoxville.

New Traveling Salesman Story

BRADFORD COUNTY — A gentleman from New York State had an unpleasant experience while motoring through Pennsylvania's prime deer country here in Bradford County. He told Deputy Jolley he was traveling the Old Berwick Pike north of Burlington when he came over a slight hill and saw three deer in the road ahead of his auto. He hit the brakes and swerved the car but there was a crash and as he brought the car to a stop he realized he had hit a big doe. A moment later he felt something hitting his back and looking around discovered an antlered deer in the back seat! He got out, opened the back door and pulled the dazed buck out by the hind feet. It got up and wandered off, leaving behind one female companion, an auto without two headlights and two side windows, and one shook-up traveling salesman.—District Game Protector R. W. Donahoe, Troy.



Think!

BUTLER COUNTY — This past summer a good friend of mine sold his one and only shotgun to obtain money to buy a bird dog. This was fine during dog training season, but when small game season came in the poor guy was left with a good bird dog and no gun to shoot with. I guess the moral of this little story is *think ahead*.—District Game Protector Jay Swigart, Butler.



Bashful Porker

ERIE COUNTY — Tom Grossman from Lawrence Park called me to relate an incident he experienced on the first day of the regular small game season. He had been hunting in the vicinity of Plateau and was crossing a marshy area when he saw what he took to be a muskrat house. Since there was not too much water there, he went to investigate and poked the pile of dead grass with his toe. When he did, the whole pile rose up several inches. This surprised him and he jumped back. But then regaining his composure he kicked it again and this time a full-grown sow took off from under the pile!—District Game Protector R. W. Meyer, Fairview.

Our Oldest Hunter?

DELAWARE COUNTY — On the opening day of the regular small game season, Deputy Game Protector Smith checked a rabbit hunter who has to be the oldest nimrod in the Commonwealth today. Clinton Lee of Chester was hunting in Thornbury Township, Delaware County, when Deputy Smith checked his license. According to Mr. Lee's license, he is 100 years old. Mr. Lee hadn't had any luck so far that day but was just happy to be out hunting.—District Game Protector R. C. Feaster, Chester.

Four Times Nine

BUTLER COUNTY—Deputy Hall checked two parties of hunters after work on opening day and found that the nine hunters possessed 36 rabbits. That's a full house!—District Game Protector Ned Weston, Boyers.



One Little Detail

GREENE COUNTY—This is the story of a hunter's first try at grouse hunting. High on a Greene County hill he got his first shot, and to his amazement the bird fell to the ground. Back in his hometown he went into a place of business to brag a little of his success. A fellow citizen remarked, "Show me that bird, I know how to tell if you shot a male or female." But when he looked at the bird the man exclaimed, "Why, I believe you have shot a chicken!"—District Game Protector T. Vesloski, Carmichaels.

Crop Damage

CLINTON COUNTY—Some nice bucks were killed in my district in October for crop damage—a 10-point, a 9-point, a 6-point and two 4-points. Two trophy-sized 8-points were hit by cars on the same day. Also killed for crop damage was one black bear.—District Game Protector J. B. Hancock, Lock Haven.

ID Problem

CLEARFIELD COUNTY—Early on the morning of October 4, I received a telephone call from an archer who reported a cub bear killed on Route 255, south of Penfield. The man stated that he was on his way home to Pittsburgh from Potter County and that he would like to have the cub for mounting. After being informed of the procedure in these matters, the man gave his name and address and bid on the animal. After driving over 125 miles from my headquarters to check on the cub, I sent the following letter to the hunter:

Dear Sir:

When sportsmen show a sincere interest in the Pennsylvania Game Commission's program by reporting highway-killed game, we appreciate this act, and in this respect I offer my thanks to you.

Your bid for \$5 on the cub is equally appreciated, but it was unnecessary for had you checked closer, you would have found that the animal could have been had for nothing, since it was a black shaggy dog.

Respectfully,

District Game Protector J. R. Furlong,
Ramey

Triple Bearder

LYCOMING COUNTY—On October 26, the opening day of the small game season, I had the pleasure of checking a happy hunter with an unusual trophy. Fifteen-year-old Miles Staggert, Jr., RD 1, Allenwood, killed a tom turkey that weighed 16½ lbs. The unusual part was the fact that this old gobbler had not one beard but three. Two were side by side about one inch apart and eight inches long. The third was about 2½ inches away, forming a triangle with the other two, and it was approximately 3½ inches long.—Land Manager D. E. Watson, Williamsport.

Brainy Bowman!

DAUPHIN COUNTY—After just spooking the buck that he had missed the previous week in Stony Creek, archer Jim Hoy of Millersburg was determined to bag a deer, be it buck or doe. Jim took his stand just off the road in heavy brush next to an apple tree. After some time, a squirrel scampered through the tree, sending an apple to the ground. At the “thump” of the apple landing, a large doe that had been bedded down on the other side of the road came over to the tree, ate the apple, and returned to her bed. Much to Jim’s despair, the deer was on the opposite side of the tree and its low-hanging branches prevented a clear shot. Several minutes passed when two crows landed in the tree and their actions sent another apple plummeting to the ground. Again the deer repeated her performance on the opposite side of the tree. Jim then formulated a plan. He found a stone, tossed it into the air so that it landed on his side of the tree in the open. When the doe walked up to the stone expecting to find another apple, a well-placed arrow dropped her in her tracks.—District Game Protector S. L. Opet, Millersburg.

Our Kind of Guy

MONTGOMERY COUNTY—“Some hunters just never give up!” This was the statement that Deputy Wright made when he checked an elderly man who couldn’t get around because of his bad legs. The man was sitting in a lawn chair under an apple tree in an orchard. His bag consisted of two rabbits and one pheasant, which he had shot as they came by him. He also told Deputy Wright he had missed one other rabbit and another pheasant. That is what we call a “dyed in the wool hunter.”—District Game Protector R. G. Clouser, Lansdale.



Never Call Quits

CUMBERLAND COUNTY—On the first Monday of small game season, I met two very dedicated hunters. They were turkey hunting together on South Mountain. One was an elderly gentleman who required the use of a cane to get about in the woods, and the other a man on crutches with one ankle in a cast.—District Game Protector D. R. Smith, Shippensburg.

Next Time, He'll Know

NORTHUMBERLAND COUNTY—While checking hunters late on October 29, I asked a man how his luck was. He said he hadn’t had any shooting but he’d certainly seen a beautiful sight—a flock of wild turkeys. I asked how close he was to them. He said about 25 feet. I asked him if he had been able to shoot. He looked puzzled and asked, “Are they in season?” I said they had been in since Saturday. “You’re kidding,” he said. I assured him I was not. “Boy, there were twenty in the flock,” he exclaimed in a tone of misery. I asked him if he had read the little yellow booklet that came with his license (the Hunting Digest), and told him we spend a good deal of money to publish these things, listing seasons, etc. He said he hadn’t, but was going to.—District Game Protector C. E. Laubach, Elysburg.



We Know It Takes All Kinds, But—

LACKAWANNA COUNTY—While on patrol of Game Lands 135, Trainee Jerry Zeidler and I came into contact with quite an interesting character. He was clad in hunting attire, carried binoculars, etc., but had no firearm. This individual had been perched in a tree for some time, just looking around. He told us that if he hunts for small game and doesn't have a good year, it makes him so upset and nervous that he can't hunt for deer. So he comes out into the woods and sits up in a tree every day, looks around for two or three hours, then he goes home!—District Game Protector T. C. Wylie, Moscow.

A Friend

CRAWFORD COUNTY — On the opening day of waterfowl season, Deputy Badger and I were at the access area by Impoundment 11 on State Game Lands 69 when a car stopped. William Neff got out and came over to give us a duck band. He complimented us for the way the Game Commission is using hunters' license money, said that this was a most beautiful place and a wonderful hunting area. He told us he brings people up here to show them how nice it is. He left us with a warm glow in our hearts.—District Game Protector W. Lee, Titusville.

And They Still Do It

BLAIR COUNTY — We frequently hear comment concerning our increasing activity in the firearm safety field. It was recently brought to my attention that this has been a matter of concern for some time. Appearing recently in the *Morrison Cove Herald* was the following reprint from their paper of October 5, 1895:

Here lies the man whose crown
was won
by blowing in an empty gun
No sooner in the gun he blew
when up the golden stairs he
flew
And met the girl on Heaven's
green
who lit the fire with kerosene.
—District Game Protector J. L. De-Long, Roaring Spring.

Sea-Going DGP's

HUNTINGDON COUNTY—In an attempt to reach some of the more isolated hunters, I recently sat along one side of the river in a canoe and watched as Game Protector Dick Furry and Trainee C. L. Keller, also in a canoe, docked along the opposite bank and checked two squirrel hunters. I had to chuckle to myself at the surprise these hunters showed when approached in this manner. My chuckle soon turned to a loud laugh, and I'm sure the hunters laughed, too, when on getting back into the canoe something happened, and Furry and Keller ended up chest deep in the cold water!—District Game Protector G. W. Wendt, Petersburg.

Above the Fireplace, of Course

BRADFORD COUNTY — 1967 Triple Trophy winner Bob Craig was target shooting with bow and arrow in preparation for this season when he accidentally punctured the rear tire of his farm tractor. His wife sweetly asked him where he planned to hang that trophy. . . .—District Game Protector A. D. Rockwell, Sayre.



CONSERVATION NEWS



National Amateur Pheasant Shooting Dog Championship

By Truman F. Cowles

FOR the third year in a row, the Allenwood Field Trial Club was host as the Amateur Field Trial Clubs of America staged their annual fall Pheasant Championship for Shooting Dogs on State Game Lands 252, some 15 miles south of Williamsport. It was the eleventh running of this event, and on this occasion was dedicated in memory of E. John Asfeld of Bernville, Pa., who died in a motor vehicle crash last April. John had been prominent in field trials all over the Northeast and was particularly instrumental in getting the bird dog competitions established on these grounds at Allenwood. A beautiful sterling silver serving tray, suitably engraved, was awarded the owner of the champion for this event. At a ceremony in connection with the drawings for the trial, appropriately engraved tureens were presented to his widow Esther and daughter Jane, as well as to the judges.

Grouse Ridge Will, a three-year-old setter dog owned by Dr. Thomas Flanagan of Norwich, N. Y., and handled by Tom Weideman, was named champion. Tommy's Jim, a four-year-old pointer dog owned and handled by Louis Farmer of Chesterfield, Va., was runner-up. Twenty-nine dogs competed. All had previously qualified by winning in a stake sponsored by one of the member clubs of the National Association. In winning, Will ran a very strong hour and registered a ster-



CHAMPION Grouse Ridge Will, right, shown by handler Tom Weideman, and runner-up Tommy's Jim, with owner-handler Louis Farmer.

ling find of championship caliber, in addition to having a mannerly stop to flush. Jim had a pair of well-handled finds, an unproductive and another sketchy contact. Though there were plenty of birds in evidence on the tract and one or more were moved in every brace, there was a scarcity of good clean work on game.

Trachaven Nellie, pointer female owned by Gene Straussbaugh of York, who had won championship titles on this locale in the past two renewals, was making a strong bid for a third title, with a good race and one clean find, when she vanished into a tract of timber and was not returned under judgment.

Field trialers visiting the grounds

were enthusiastic about the progress being made on the Allenwood tract in the land management program. A rotating system of cultivation and crop planting is in effect and the plantings of wheat, clover and other cover crops in place of the former extensive stands of corn met with their favor. The feed patch program, with strategically located plots of kaffir corn, millet, buckwheat and game bird mixture, provides plenty of fodder.

Supervision of the area comes under

direction of Ray Morningstar, the Game Commission's Northcentral Division supervisor. Donald Watson and Jim Osman, the latter now at Harrisburg, are land managers, while William F. Reed is in charge of the Food and Cover Corps program. Wilmer Richter is biologist and Larry Kuznar Game Protector.

Judges for the Championship were Robert Abric of Monroe, Conn., and Paul E. Stubbs of New Hope, Pa. The running required almost three days.

Varner Collection

A collection of books on firearms, hunting and fishing is being assembled by the Scranton Public Library in memory of the late James W. Varner, well-known gun expert and sportsman. The public is invited to contribute suitable books to the collection and it is hoped that GAME NEWS readers will take part in this effort, as many were regular readers of Mr. Varner's gun column in this magazine during the six years preceding his death in 1964.

Information Requests

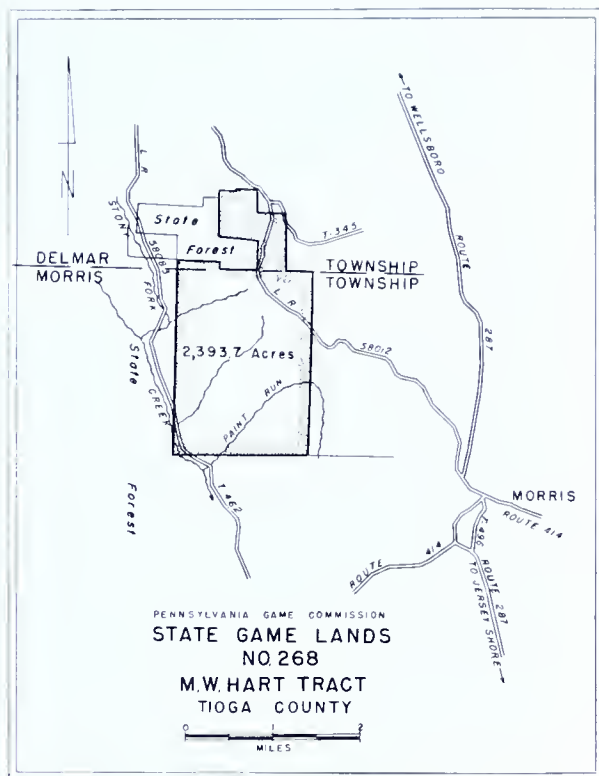
Numerous written requests are received each day at the Pennsylvania Game Commission information office. Each request is serviced the same day it is received. At least once each day it is impossible to comply with a request due to lack of a return address or writing that is illegible. Some people write a second letter, wanting to know why we have failed to reply. In forwarding requests, please write plainly and include complete address and zip code number.

Pennsylvania Pheasant Hunt on "American Sportsman"

Southeast Pennsylvania's excellent ring-necked pheasant hunting will receive national recognition shortly when the American Broadcasting Company's popular television show, *American Sportsman*, is aired. During the regular season in November, with the cooperation of the Pennsylvania Game Commission, three well-known personalities in the entertainment field spent several days hunting ringnecks in Lancaster County. Doing the shooting—and doing it well, as the show will prove—are Phil Harris, who, as the saying goes, needs no introduction; Norris "Tuffy" Goff, better known as the "Abner" half of the *Lum and Abner Show*; and sportscaster Curt Gowdy. Appearing with them and handling the dogs is Carroll F. Hockersmith, former member of the Game Commission and noted dog trainer and judge. His springer spaniel, George, and Henry Warner's setter, Blondie, provide outstanding dog work. The hunt takes place on the farm of Roy H. Weaver, RD 1, Strasburg, and at Sam Slaymaker's "White Chimneys," near Gap. Assisting during the filming were Deputy Executive Director Bob Lichtenberger and DGP John Eicholtz. Date and time of the show will be announced in local papers. If you want to see Pennsylvania pheasant hunting at its best, don't miss it.

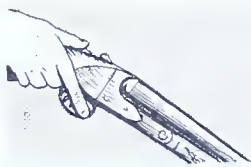
New Game Lands

State Game Lands 268 in Tioga County (see map at right) recently was added to Pennsylvania's public hunting area. Totalling 2393.7 acres, this Game Lands is largely a forested mountain area, with maple, beech and birch predominating, but having scattered oak and pine also. Beaver dams have created about 100 acres of marshland, which attracts some waterfowl. Paint Run and Stony Fork Creek intersect the area and there are a number of good springs. Big game found here includes deer, bear and turkey, while for the small game hunter there are grouse and squirrel. Predators include foxes and wildcats. The area is readily accessible to hunters and there are State Forest Lands to its west. The nearest town is Morris, two miles southeast. Wellsboro is some 15 miles to the northwest.



TOP TEAM IN THE RECENT statewide Deputy Game Protector handgun meet was DGP Dick Fagan's team from Lehigh County, below, which produced a 935 out of a possible 1200. Shooters were Bob Miller, A. M. Artim (did not fire), Roy Lerch, Harry Gardner and Don Miller. High individual was H. N. Schrawder (not shown), of Northumberland County, with a 285.





HUNTER SAFETY EDUCATION



What Do You See?

By John C. Behel

PGC Hunter Safety Coordinator

Before reading this article, study the five illustrations and try to identify what you see.

“WHAT do you really see?” asks Dr. Frank Anthony, Associate Professor, Pennsylvania State University.

That question is important—particularly to hunters, for if they make a mistake, results can be fatal. And research has shown that, upon viewing a given object, some persons see one thing, others see something else. To create better understanding of the problem and hopefully to eliminate it, a Perception Study of some 30 slides has been developed by Dr. Anthony and the Pennsylvania Game Commission. This study, which is part of our Firearm and Hunter Safety Program,

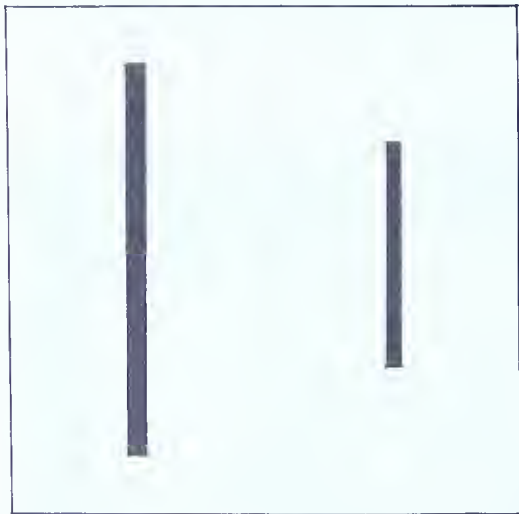


Figure 1

helps make the hunter more aware of what he is looking at and can lead to a change of improper attitude toward target identification.

Explanations by offenders involved in “mistaken-for-game” accidents reveal the necessity for facing up to the question,

“What do you see?” Consider these true reports:

A man saw what he thought was a woodchuck. He shot—and his target proved to be his son playing in tall grass.

A deer hunter who had wounded a buck hunted for it in one direction while his partner went another way in pursuit of the animal. Soon, the first hunter saw the deer lying down. He shot, thinking it might get up again and escape. Running up, he found he had shot his partner, who had found the deer dead and was bending over the animal, preparing to field dress it.

Wanting to see the wounded deer, that’s how the hunter identified the object before him. He did not recognize his companion as part of the whole. Both victim and deer simply blended into one picture for the offender—the picture he wanted and expected to see.

After observing some movements in the grass for several minutes, a hunter shot his brother for a woodchuck. The brothers had separated early in the hunt. Later, both approached the area where they knew a woodchuck lived. The offender stated that before shooting he was sure of what he saw, as he watched the up and down movement of the feeding woodchuck. When he went to see if he had hit his target, he had shot his brother exactly between the eyes. Distance, fifteen steps.

In another case, a woman using binoculars verified her husband’s observation of a woodchuck in an apple tree. He was using an 8X scope on his rifle. The target proved to be an eight-year-old boy playing in the tree.

What causes such accidents? Can they be prevented? How? These questions are of vital importance to all of us.

Mistaken-for-game accident reports indicate that victims have been identified as various animals or wild birds. Besides woodchucks and deer, a moving hand has been identified as a squirrel, an arm for a turkey’s



Figure 2

head, a body movement as a bear, etc. Cows have been shot for deer, horses for bears, and one hunter even shot a moving green Jeep for a bear—and continued shooting after the Jeep's occupants had bailed out to take cover!

Whether such actions are caused by power of suggestion, hallucinations or whatever, it always comes back to the question, "What do you see?" Obviously, no one would deliberately shoot another.

Do you always take the second look before shooting? Is your mind flexible enough to make a positive identification of your target—flexible enough to let you know that what looks like a game animal is really something else if such is the case? Investigations of numerous hunting accidents have proved that individuals sometimes make up their minds as to what they want to see, and having done this they actually see what they're looking for, even when the object is

Figure 3



something entirely different. Such inflexibility can be fatal.

As the father who shot his son stated, he knew there was a woodchuck down the fencerow, a big fat one he really wanted to get. Even as he searched for it, his mind was made up. He knew he was going to see that chuck. But it was his son he shot.

The use of "perception" illustrations in Hunter Safety programs provides some observations on the flexibility of students' reactions when identifying various items. They also point out the necessity of creating the habit of looking for more than one thing when a possible target appears.

Let's discuss the accompanying illustrations. Figure 1 is simply two straight lines. The main difference between them is that one is longer than the other, right? Can I tell you anything that will change your conception of those poles? Possibly. What if I tell you you are not looking at two lines on a flat surface but rather at two telephone poles? One is in the background, in perspec-

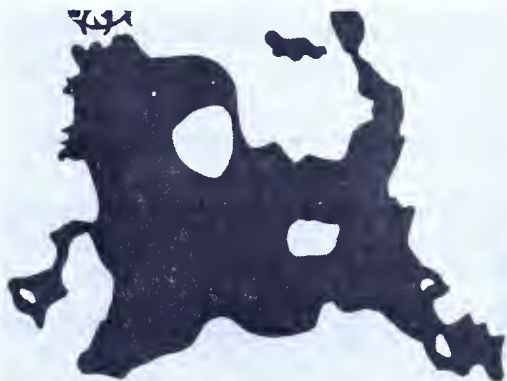


Figure 4

tive, but common sense now tells you it is as tall as the telephone pole nearer you.

Now, continue looking at the two lines—one line is short and the other longer.

The moment you read "lines" your mind should have focused on the concept of lines—and not "telephone poles." But did it? If it continued to see telephone poles and did not instantly switch to the other image (lines), it suggests you might not be as flexible in your attitudes as you could be. It also illustrates how we are inclined to see whatever we have in mind, and not necessarily what actually is in front of us. Is it any wonder that a bare-headed person can appear as a woodchuck to a hunter?

It should also be understood that when

we see one image we do not see the other; we see only one thing at a time. So practice mental flexibility. Force yourself to see what's really out there, not what's in your mind.

Figure 2. How old is the lady? Some say 25, others 75. Actually, there are two ladies, one young, one old. If you didn't find both, look again.

Figure 3. The black areas here aren't the primary subject, though they're what most persons study. If you ignored them and looked at the white areas, you saw the word FLY.

Figure 4. This is the most difficult. It's been called a map of India, a tiger, monkey, bird, bat, the outline of a lake and an ink blot. Some students insist it's nothing at all. Actually, it's a portrait of the face of Christ, with only the shadows being depicted. Some 95 percent of people tested miss this.

Figure 5. This also is the face of Christ, but here the crown of thorns has been added. About half of all viewers now recognize it on their own, and almost everyone can see it when it's pointed out.

But a hunter rarely has anyone with him to point out features of a possible target

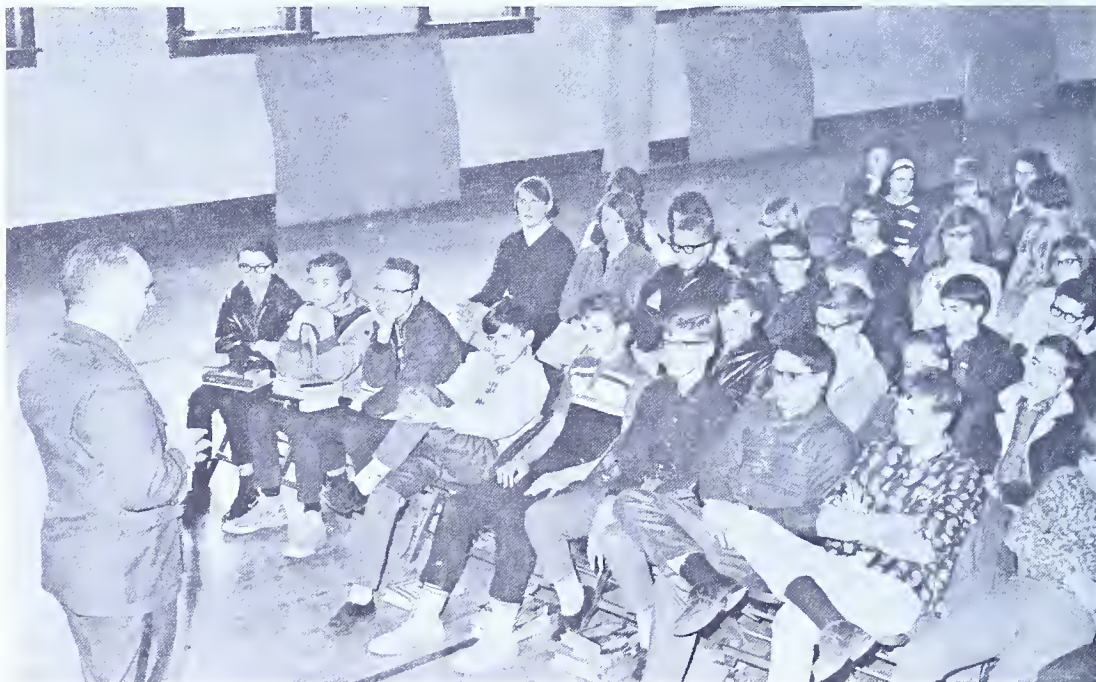


Figure 5

which he might not recognize. He must do it alone. *You* must do it alone. So take a second look before shooting. A third. Or as many as necessary to make certain of just what you see. Avoid fixed opinions—force your mind to retain its flexibility. Then you'll be able to accurately answer the question: "What do you see?"

DISTRICT GAME PROTECTOR Carl Jarrett discusses the hunter's responsibilities with a class of students at McConnellsburg High School, Fulton County, where over 500 students were qualified as safe hunters.

PGC Photo by John Behel





COLUMNIST SCHUYLER approaches buck he downed with broadhead. It traveled only about 45 yards after being hit.

Fifteen Days of Probable . . .

Snow Shooting

By Keith C. Schuyler

Photos From the Author

IT MAY COME as a surprise to many bow hunters to realize they have 15 days in the late archery season in which to fill their deer tags. That's right! An archer may take any deer on weekdays, December 26, 1968, through January 11, 1969, providing he has not taken one during the 1968 seasons that began on September 28. This makes 39 days in the 1968-69 season during which bow hunters were given the privilege to seek deer without competition.

Furthermore, since archers were permitted to use the bow and arrow during the regular big game season, this tossed in an extra 12 days during which there was competition from the guns—which brings the total to 51

days. Of course, those with antlerless deer licenses could hunt during that two-day gunning season in December. This makes 53 days for archers to hunt deer during the current license year.

The fact that relatively few take advantage of the December-January season is unfortunate. True, this is a time of year when the weather is apt to be rough. On the other hand, the latter part of the season frequently falls during the typical January thaw. In addition, deer often must travel more in winter to their feed. The hunting opportunities are there for the taking.

There are some disadvantages. Foremost is the fact that the deer herd has been thinned considerably and targets are thus much fewer. Depending upon



OLAN DOLLMAN on stand in heavy cover where deer are often found when snow is on ground.

the weatherman, the climate can be extremely unfavorable. Also, much of the enthusiasm generated in the weeks before the first season opened way back in September is on the wane. And since many have already scored with either the bow or the gun, it is more difficult to find a hunting companion or a group.

Nevertheless, since there are advantages, the disadvantages should only present a greater challenge to the dyed-in-the-wool bow hunter.

It can be done. Although only two of the deer I have taken with the bow were shot when there was snow on the ground, I have spent many pleasurable hours in pursuit of them under these conditions. My first deer with the bow was taken during the gunning season in snow which made hunting difficult at best. On top of this, until a warm front brought another snowstorm in on us by midafternoon,

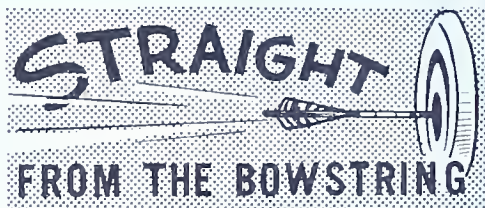
the weather was quite cold. It was even necessary to take the track much sooner than we wanted after the deer was hit, since it seemed likely that the trail would soon be covered by snow. But these circumstances served only to increase the thrill that came with downing this doe before we were presented with the privilege of a special archery season.

How do you go about shooting a deer in winter with equipment that has a built-in handicap before you ever leave home? It isn't easy. Nevertheless, the opportunities are far better than the average archer who has not given it a try himself might suspect.

Get a Gang

The best way to increase your margin of success is to get a group of hunters together. This, incidentally, is a safety factor that shouldn't be overlooked. Since there normally is snow and ice during the special season, walking hazards are increased because of slippery conditions. It is well to have at least one other person with you for safety's sake. If a hunter should become lost, the implications are serious. And the more hunters you can get together, the better chance each will have to score.

When planning a group hunt now, you can forget the little farm patches that produced well during the regular season. Deer in these areas have either been harvested or driven to more remote areas. Tracks in such spots generally indicate that deer move in at night for the food that made the area good hunting back in October. Nevertheless, deer won't travel any farther than necessary under winter conditions. Somewhere not so far away is



heavy cover where you can find the targets that made those tracks.

Camouflage clothing is still desirable. Any shooting you get, particularly if you are still hunting, will likely be in heavy growth. This may be slashings, evergreen woods, blow-downs or leftover cuttings. Such areas are not only the most likely to produce deer at this time of year, but they also provide better concealment to help you escape detection by the animals.

Another plus value is in the fact that, since food is normally rather scanty or is buried under the snow now, deer are apt to be feeding in the middle of the day to obtain their required sustenance.

The clothing you wear deserves special consideration. If you plan to make a solitary stand, particularly if there is snow on the ground, you will need the best footwear possible. One of the more popular items is a pair of knee-high rubber boots. They should be sufficiently large to accommodate several pairs of stockings. These will trap additional heat even if the boots themselves are insulated.

Some will find that a hat with ear flaps is of real value on a cold day. This restricts the sense of hearing to a degree, but it is better to risk missing a shot than to hazard frostbite.

Biggest Problem

The biggest problem relative to low temperatures is with the hands. Warm gloves or mittens are frequently too bulky for the archer. No one who has practiced with a minimum of hand covering is going to be able to shoot well if he overburdens his fingers. The bow hand is much less a problem than the other, so long as the palm of the glove is of non-slip material. Soft leather is about the only sure gripping material that's readily available.

The hand which draws the string poses the real problem. Finger tabs or shooting gloves offer little protec-

tion against low temperatures. A gadget which holds the arrow on the bow under slight pressure is a partial answer. This permits the hunter to keep his drawing hand in his pocket when awaiting a shot. The arrow keeper will hold the shaft in position until a shot is offered, and then it flips out of the way when the arrow is drawn.

A leather driving glove makes a fair hand protector, and it has enough "feel" to serve as a shooting tab. However, it is advisable to practice with any unfamiliar hand covering before attempting to shoot at a deer.

Some consideration should be given the bow on the colder mornings. Modern bows are less susceptible to changes in temperature than were the one-piece, or self bows, of not too long ago. But a gradual flexing before pulling the bow to full draw cannot harm the bow and it may avoid break-

SCHUYLER'S FIRST deer with the bow was taken with snow on the ground during the 1950 season in Pennsylvania.





ED FULKERSIN proudly exhibits the nice buck he took with bow during a recent snowy season.

age at a critical moment later. In fact, it is a good idea to do this occasionally throughout the day if the temperature remains low. It may also help to loosen up critical muscles stiffened by the cold.

Easiest Part

The easiest part of winter hunting, if snow is on the ground, is in determining where to find shooting. Obviously, the presence of deer will be easily detected by their tracks. Even if we have a relatively open winter, there is always some snow. This provides an opportunity to find where deer are congregating in advance, in the event there is no snow cover during the late season.

Although you may find plenty of tracks out in the open, it is a fair bet that these are being made at night. Deer seldom leave heavy cover during the day when the ground is covered. This means that most deer hunting should be done in the less accessible areas.

It is always tough to judge distances away from familiar surroundings. It is even more difficult when

there is snow cover. Targets appear to be much closer than they really are, and the tendency is to under-shoot. This is the reverse of the normal error during the regular season when the tendency is to shoot too high. It is a good idea to get in some practice on the local range under winter conditions.

Greatest Advantage

The greatest advantage to any hunter, in the event of a hit, is in the ease of tracking through snow. Nevertheless, the same procedure should be followed as at other times. Give the arrow sufficient time to promote bleeding before following up a hit.

If you insist on going alone to your favorite stand, it is a good idea to get there well ahead of the legal time for shooting. Visibility is just as good for the deer as it is for the hunter, and any movement on the landscape is not likely to escape the excellent vision of animals which have managed to elude hunters through the recent seasons. Once you have stationed yourself, the advantage is reversed, since you can now see any movement for considerable distances.

Wind Less Problem

You will not likely be bothered as much by shifting breezes now as you are in the earlier seasons. Under snow conditions the terrain is more nearly the same, and the little convection currents and errant breezes caused by differences in temperature of the landscape itself will be largely absent. In midwinter the air is frequently as quiet as the general landscape itself.

It is quite probable that any archer taking a deer during the late season is going to earn every ounce of it. However, if you have never tried it, you have a special experience available to you. Those who count the rewards only in the actual game bagged may find there is *too much* of a challenge. But those who truly love hunting welcome the extra tramp over the winter obstacle course.



By NED SMITH

In January we find a doe that walks like a hunter, a tree-sitting cottontail, a woodpecker that chops rectangular holes and a clip-clopping coot . . .

TO THE outdoorsman, "seeing" is more than merely looking. It is a multi-faceted art, refined and developed through constant use. It is not enough to have 20/20 vision (nor is it necessary). Many a person with perfect vision sees nothing, in a manner of speaking, in the woods, and many an all-seeing woodsman has relatively poor eyesight. No, seeing involves noticing things. Several of my friends who became interested in hunting wild mushrooms have repeatedly remarked about the variety and abundance of mushrooms—now that they are looking for them. The same holds true of birds or wildflowers, ferns or fossils.

Seeing also involves interpretation. A few weeks ago I found an old chestnut log in the woods and the "sign" told me the story. A worn spot told me it was a cock grouse's drumming log. Footprints on the snowy log were glazed with ice, indicating he had walked to his drumming spot the previous day and begun to drum shortly before the snow turned to freezing rain. The semicircular bare spot in front of the log showed where his whipping wings had blown the ground free of snow before the icy covering cancelled all further changes. To be sure, it was a strange time for a grouse

to be drumming, but the signs were unmistakable.

Seeing is also a matter of patience, of waiting for the right moment, of watching until something happens. How often we observe a deer, a woodchuck, a flock of turkeys for a few minutes and, thinking we've seen all there is to see, move on. But exciting or interesting things don't happen every minute in nature. The observer with nothing to do and no schedule to keep is the one who sees the unexpected.

Now that the hunting season is all but over, we watchers in the woods can quit concentrating on deer (or whatever we were hunting) and turn our attention to other things. How observant we become will determine to a great extent how much we enjoy our midwinter outings, when other pleasures must replace the sport of gunning and the rewards of a bulging game pocket.

January 7—A friend and I hiked back to a food plot in the Game Lands this afternoon and it was tough going in the crusted snow. Jack had been there the previous day, and we saw his tracks coming out. To our surprise, a deer had also strolled out the trail from the food plot, using Jack's tracks



to muffle her own footsteps. One of her dainty hoofprints could be seen in each of his boot prints. She covered more than two hundred yards in this manner, stepping out of them at only one place for two or three strides, then getting back on the track.

January 11—Spent the afternoon with my eye glued to a 20-power telescope watching the antics of ducks and other birds on the river at West Fairview. It was cold—bitter cold—so I was glad to be able to drive the car to the river shore and watch in solid comfort with the scope fastened to a window clamp.

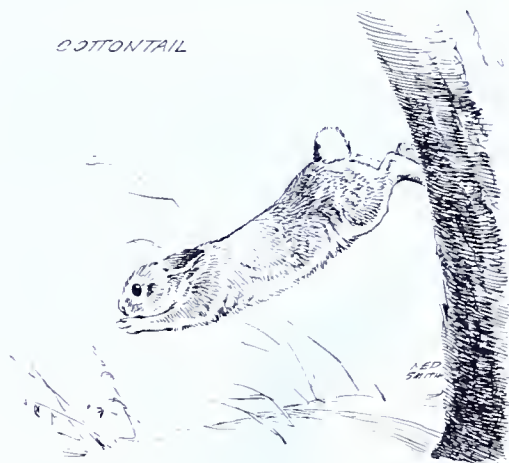
The ducks were mostly mallards, but there was a pair of blacks among them. Several American mergansers and scattered pairs of buffleheads bobbed and dived farther out in the choppy water.

The gulls were entertaining, as usual. One herring gull that crossed my field of view was carrying something in its bill that looked like a mussel. Apparently it was, for when the gull had attained sufficient altitude it dropped the object onto the ice, as coastal gulls drop clams on rock jetties or paved roads to break the shells. The fall must have produced the desired result, for the gull swooped to a landing and had a snack.

Two handsome black-backed gulls swimming far out in the open water apparently located some small fish just beyond reach. They solved the problem by flapping vertically into the air then, when a few feet above the surface, tipping over and diving into the water headfirst. They disappeared—all but the very tips of their long wings which they stretched skyward—then, after two or three seconds, bobbed to the surface. Most times they came up without a thing, but once in awhile one would have what looked like a tiny fish in its bill. The gulls would make three or four dives each, then swim about for several minutes before diving again.

January 14—Trudging through the

birch woods along the river I was surprised to see a rabbit sail through the air to land with a plop in the snow and depart in great, plunging leaps. Investigating, I found his launch pad, a crotch in a silver maple exactly thirty inches above the snow where he had been taking his morning nap.



January 17—The rectangular excavations of the pileated woodpecker are a familiar sight in Pennsylvania forests, and today I saw how they are made. I was hunkered against the base of an ancient chestnut oak idly watching a flock of golden-crowned kinglets trickling through the treetops when a big woodpecker swooped into a nearby tree with a swish of wings and an ear-splitting cackle. Red-crested head bobbing this way and that, he scanned the surrounding woods without noticing me sitting there studying him through binoculars. Then he went to work on the sturdy pitch pine.

The blows of his bill had the solid "chock" of an ax stroke, and he periodically flicked out chips to give himself working space. Then he shifted his feet and went to work in earnest. His technique was that of a skilled chopper. Tilting his head, he cut across the wood fibers at the top and bottom of the excavation. Next, with head held straight, he split out the intervening wood and flicked it free.

The procedure was repeated and the hole grew in every dimension. At length he reached into the depths of the excavation and withdrew something white, a grub I suppose, which quickly disappeared into his bill. Splitting out a few more chips he again withdrew a grub. Then with a wild cackle he dropped from the tree and went swooping off through the sunny woods.

January 22—The fire lane on top of the mountain was sprouting intricately looped and folded ribbons of ice that spewed from the ground in dozens of



BLACK-BACKED
GULL

places. The formations were as beautiful as they were unexplainable—looking for all the world like glass-clear ribbon candy streaked with bands of sparkling crystals. A few years ago on a very cold morning I had seen the unique formations in the same place, and shortly thereafter I ran across an explanation of this phenomenon. The author attributed it to moisture being extruded from the hollow, broken stems of a certain plant—a member of the mint family—but I've forgotten the identity of the plant and the source of my information as well. Can any of my readers help me out?

January 23—In spite of the fact that most hawks have overwhelmingly

beneficial feeding habits, some people simply can't bear to leave them alone. This week my deputy friend found two redtails—both the victims of illegal shooting. Apparently the sight of a hawk brings out a vicious streak in some people. Last week my friend removed an immature redtail from a pole trap that obviously hadn't been checked for several days. Two of the bird's toes were broken and frozen, but the veterinarian amputated them and he seems to be doing okay.

January 24—A lady living near the river in West Fairview has been scattering corn on the ice and the riverbank for the ducks wintering there. It's amazing to see how they perk up when she puts in an appearance. I was watching the fifty or more mallards this afternoon when, as though on cue, every head went up. Following their collective gaze I saw the lady approaching with a pan of corn. The ducks watched in silence until she tossed out the feed and turned homeward. Then they moved across the ice toward the corn, muttering in anticipation. Oddly enough, a pair of black ducks, normally quite shy, rushed ahead of the mallards and were the first to reach the corn. Several coots also joined the feast—gobbling up the grain at a great rate. One lone coot was far downriver when he discovered what was going on. He immediately went into a hilarious gallop—if a coot can gallop—clip-clopping over the ice on huge green feet for fully a hundred yards! He paused only once, then started off again, never stopping until he had scampered up the bank and joined his friends.

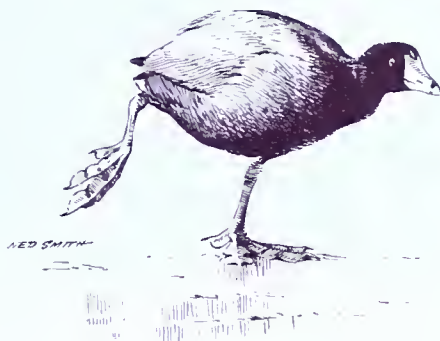
January 26—Mallards are early nesters, and already the drakes are fighting among themselves in a prelude to courtship. In the water their belligerency is still restricted to stylized threats and displays. Several drakes will mill about with plumage fluffed out and heads drawn in, frequently facing each other briefly. At intervals

one will rear up in the water, jerking his head upward and forward, then settle back into the water. Others follow suit immediately, to the accompaniment of excited chatter. Some, apparently in a more advanced courting fervor, dip their bills into the water, then rear up, drawing their dripping bills up over their chests as they sink back into the water. It's an interesting sight.

The drakes in a flock of about thirty loafing on the ice near Liverpool were either in a more bellicose mood or they found fighting easier afoot than afloat. At any rate they were continually bullying one another. Without preamble two drakes would suddenly come together, pushing and shoving with their enormously puffed-out chests, at the same time duelling with rattling mandibles in an attempt to get hold of one another's head. When one slipped by his opponent's guard and clamped down on his glistening green plumage the result was a melee of flailing wings and backpedaling, skidding webbed feet. The victim's struggles were usually ineffectual, and he was dragged about by his crown or cheek until he could break free and fly away. The victor usually followed a short distance, then gave up the chase, but before long one combatant or the other was usually embroiled in another bout.

January 27—We're up to here in rabbits! And never have I seen so much damage, although it has fortunately been confined to plants of little or no value. Nearly every young tree-of-heaven and sumac along the gully south of the woods has been severely

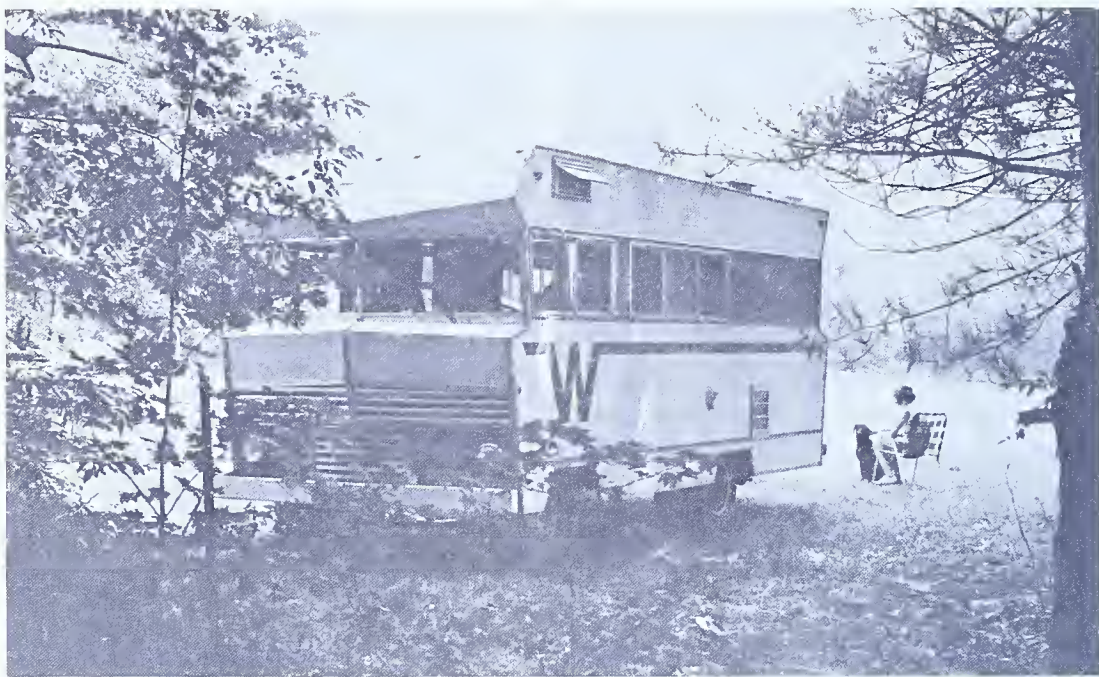
COOT
ON THE RUN



barked, and in some instances chewed completely through. Blackberry canes have suffered the same fate, and the Japanese honeysuckle looks as though someone cut several square yards of it with a sickle. The unremitting snow has been the cause of the trouble. It lies deepest in the gully, and the resident cottontails are compelled to eat everything that rises above the surface, or move.

North American Big Game Exhibit

Pennsylvania hunters are welcome to enter the annual North American Big Game Exhibit which will be held at the Farm Show Building in Harrisburg February 10 through 15, as part of the Eastern Sports and Outdoor Show. There is no entry fee. Winning entries will receive engraved plaques. White-tailed deer, mule deer, Columbian black-tailed deer, elk, caribou, moose, sheep, goat, pronghorn antelope, bear, cougar and jaguar are the species eligible for exhibit. The official scoring system as set up by the Boone and Crockett Club will be used. Complete information and entry forms may be obtained by writing to the Eastern Sports and Outdoor Show, 1718 North Second Street, Harrisburg, Pa. 17102.



If Comfort and Convenience for the Whole Family Is Your Camping Goal, Consider . . .

The Mobile Home

By Les Rountree

WHAT'S the ultimate in over-the-road comfort? That's the question more and more campers—particularly those who have passed the rough-and-ready stage—are asking themselves. And I think I know the answer—the mobile home. By this I mean the large, self-contained, bus-like vehicle being seen on our highways with increasing frequency, not a large house trailer.

I say this after spending a vacation last summer in one of these rigs. This one happened to be a Winnebago, but similar mobile homes are the Cortez, El Dorado, Redi-Go Travelers, Islander, Streamline, and Dodge. Doubtless there are others, but I haven't examined them.

Ours was an eighteen-footer, complete with shower, chemical toilet, propane stove, sink and a refrigerator that operated on propane or AC current. Sleeping capacity was six, taking

the form of three double beds. Since there are only four in our family this was more than adequate.

Chances are, not too many readers, percentagewise, have had the opportunity to use one of these touring machines yet, so I would like to spend some time offering my impressions concerning their handling and livability. First off, don't jump into one of these rolling castles direct from your station wagon and charge merrily down the road. Oh, sure, you can drive it and you may do a good job, but chances are you won't. Reason is, the whole rig is some 7½ feet wide and about nine feet high, and its driving technique is completely different from the family car. Weight, width and the cab-over steering mechanism take some getting used to.

I've probably scared off a few potential users already, and that really

wasn't my intention. What I'm trying to emphasize is that some practice driving is necessary before you pack up the family and motor down the road. The reason I'm so sure about this is—I made all the mistakes first and didn't listen to my own advice. We were on the Pennsylvania Turnpike in less than three hours after the mobile home arrived, and before too many miles had passed, I was sure we'd never arrive at our destination in one piece. The first time someone passed us, I was convinced there simply wasn't enough room for both of us on the road. Ditto, when I attempted my first pass. There really is plenty of room on both sides on a four-lane highway, but it does become a bit tricky when you get off on the secondary two-way roads.

Before you start, make sure those rearview mirrors (both of them) are adjusted for the driver's eye level. You should be able to glance easily into either without ducking or twisting your head. Movement of the eyes alone should quickly bring both mirrors into view. In addition to the side mirrors, the regular center-positioned rearview mirror should also be well adjusted and the back window kept clear for a third view of the highway behind.

You don't have to worry about complicated truck driver shifts in any of the modern mobile homes. They all come with automatic shift, power brakes and power steering. No brute force is necessary. Your wife can easily drive it with a little indoctrination session.

From the driver's standpoint, the



HOME-LIKE COMFORTS make big mobile home campers popular with the woman of the family.

unit we used was well laid out. The bucket type seats (pilot and co-pilot) were comfortable even after long hours of driving and the instruments were easy to read. The dash mounted gear selector was easy to reach, as was the auxiliary gas tank control. The chassis was equipped with twin 15-gallon gas tanks. When one went empty, you simply moved a toggle switch and you were on a full tank.

All the luxuries included in this rig necessitated a lot of machinery on board to operate it. There is an electric pump for the water supply that takes over when the air pressure system drops to non-operating level. A replaceable propane tank takes care of the stove, the refrigerator and the heating unit. An outside line permits hooking up to a 110-volt campground receptacle to operate all lights and the ice box if you so desire. Otherwise, all lights are hooked up to the chassis' 12-volt system. The marine toilet functioned well and so did the shower, although we did have to "air up" the water system several times. This can be done at any filling station with a standard tire air hose. The foam rubber pads which serve the dual purpose of seat cushions and mattresses offered comfortable sleep-





MOBILE HOMES are easy to drive, despite size, and roominess makes it easy for children to keep themselves occupied.

ing. A feature that especially impressed me was the way the cupboard doors opened upward and were held by little magnets screwed onto the ceiling. The magnets never failed and the doors were really out of the way when you were loading or unloading.

We arbitrarily set ourselves a top speed of 55 mph in this rig. Possible top speed is much higher—indeed, the legal speed is higher on some highways—but the outfit seemed to handle much better at this somewhat slower speed. Remember, it's a mobile home, not a race car.

The initial cost of a motor home is, of course, high. If you amortize it over a several year period, and if you have children, your yearly vacation costs start to come down. In our case, on a 750-mile trip, our daily travel costs averaged \$4.80. Figure this against motel and restaurant expenses which would run at least \$40 per day for four people and you're saving money. Admitted, you can't compare costs with tent or pop-up camping and come out ahead—but they don't have

the luxuries of this cruiser, either.

Yes, I hear you old-time canvas campers. What you're saying is—"This home on wheels is just dandy, but is it camping?" To be perfectly honest, the answer has to be no. A better word for traveling from place to place in a mobile home or ultra-deluxe trailer has to fall under some other description. Perhaps a better word would be touring. Who decides what constitutes camping or touring? Certainly not me. It's a personal matter. The way you decide to visit any far-off (or nearby) point of interest is entirely up to the individual. As a reporter of such things, I have to take an impartial viewpoint as often as I can. But I do have some observations on the esthetics of camping and for what they're worth, here goes.

At all campgrounds that are heavily patronized I feel there should be two distinct areas. One should be set up for the mobile home and trailer owner and offer the electricity and water hookups that make these outfits so comfortable. Some of the fancy pickup campers also fall into this category. The other area should be more secluded and a bit on the rustic side for the more basic tent and pop-up campers. Many campgrounds have this division already. The less luxurious sections are usually referred to as "primitive" areas.

Camping Defined

My personal definition of camping means this: You are sleeping under some kind of fabric, meals are prepared over an open fire or a portable camp stove, and hot water does not come out of a faucet.

Touring means going as comfortably as you can afford and still have an over-the-road outfit that is conveniently movable. For an extended stay with a large family, mobile homes offer features that the canvas campers can't. There's nothing to erect and they *are* comfortable.

Perhaps the most important thing

about the more elaborate outdoor living outfits is that they get more people into an outside environment. Persons who couldn't see themselves pitching a tent can visualize an outing in a mobile home. The apartment dweller who balks at a fly in his soup could go along with camping—touring—on these terms. Those of us who feel that we have a certain proprietary interest in *our* outdoors sometimes feel that such people don't belong in *our* outside world at all, and that things would be much better if we didn't encourage them to try. I must confess that I too felt this way for a long time but recent events have changed my thinking drastically. People are making greater demands of the countryside each year. Housing developments are springing up where we once used to chase pheasants. A new highway bridge now stands in our favorite fishing hole, and a ribbon of concrete severs the ridge where we killed our first buck. Special interest groups, we say, caused this to happen, and we

INCLEMENT WEATHER is only a minor problem when you have room to relax in comfort, as here.



mope about the new generation of campers who are now clamoring for space to set up their tents and park their pickups and, yes, their mobile homes. Many more people are discovering the outdoors as more than something to look at in picture books. They are finding out that it's fun to be there. They are also learning that they must help protect it.

More Outdoorsmen

Professional conservationists for a time were lamenting the huge upsurge in camping. Facilities were and still are crowded in many parts of the country. This is particularly so around our National Parks and some state facilities. More private and public funds must be spent in the immediate future if we are to keep pace. I believe that we will catch up. We will because we—and when I say we, I mean the broad spectrum of persons concerned with the wise use of our natural resources—are starting to care. Instead of just groups of hunters and fishermen, the “outdoorsman” today means the camper as well. By the millions, these people are being exposed to the fun and excitement of doing something in a natural surrounding. They are becoming more aware of that part of their environment outside of the city's confines, and the final result will be a powerful voice for conservation in this country.

So how about it, you tent and skillet campers? The next time you see the dude in the mobile home pull in, don't write him off as a soft-handed greenhorn. He's probably enjoying the outdoors just as much as you are. He just chose to do it a different way. If he's not a hunter or a fisherman or the Davy Crockett that you are—talk to him. My bet is that you'll find more areas of agreement than you thought possible. Besides, if your wife happens to be along and takes a look inside that plush motor home, your next summer's plan just may be altered too!

*For More Shooting, Either on the Target Range
or in the Hunting Field . . .*

Add a Handgun to Your Collection

By Don Lewis

Photos by Helen Lewis



“HEY, Lewis, take a look at the group on the number one target,” called Ted Godshall, Associate Editor of the *GAME NEWS*, as he threw his arm around my shoulder. “You’re always telling about the small groups you see on the rifle range. You rifle die-hards ought to see how well some of these fellows can handle a revolver.”

“Okay, I’ll take a look through the spotting scope when they come off the firing line,” I replied. “No doubt one of the gunslingers shot a good group with his rifle and tacked it up on the target board.”

“You rifle lovers are all alike,” joked Godshall, as he unstrapped a nice looking sidearm. “You’re always jealous of us handgun experts. You might find out how tough it is to shoot a group if you tackle the handgun.”

On this particular day, I was part of a group of outdoor writers that was the guest of the Pennsylvania Game Commission at the Ross Leffler School of Conservation in Brockway. I was trying to interest someone in going to the rifle range to shoot some groups while the rest of our party shot trap or tried their luck on the pistol range. When I had no luck in persuading anybody, I sauntered over to the pistol range where I encountered Godshall. While we were having our friendly argument, the shooting stopped, and I made a beeline for the spotting scope at the number one position. When I finally became con-

DON MILLER, Superintendent of the Ross Leffler School of Conservation, fires a practice round on the school’s 25-yard handgun range.

vinced that what I was seeing was for real, I knew that whoever fired the group could handle a handgun.

"How's it look, Don?" someone asked quietly as I stared through the scope.

"Terrific!" I exclaimed to Don Miller, Superintendent of the Ross Leffler School. "If you're the one who shot this group, you should be in the Olympics."

"It's not as good as it should have been," answered Miller as he wiped off his shooting glasses. "I dropped one out of the 10 ring."

"I saw that, but you forgot to mention that you have five in the X-ring," I reminded him. "At 25 yards, that's darn nice shooting."

"All 10 shots in about a three-inch circle at 75 feet is not to be sneezed at, especially with a 357 Magnum," put in Godshall.

"I'll buy that anytime, Ted," was the only answer that I could think of.

Consistent Groups

During the rest of the afternoon, I kept checking on Don Miller, and his groups stayed just about the same. I found him to be a consistent shooter with the revolver in either the 38 Special or the 357 Magnum. He's a great advocator of more hunters becoming acquainted with the sidearm. His slow fire and rapid fire groups proved beyond a doubt the accuracy of the handgun. The more I watched him shoot, the more convinced I became that hunting with a handgun would not just depend on luck type shooting, but it could become in a sense as precisioned as that with the rifle.

During the years that I have been



RAPID-FIRE TARGET shot at 25 yards shows shooter's good grouping ability and a good score—99-3X.

associated with all types of guns, I never developed any great interest in the handgun. Like many other hunters, I had some doubts about their accuracy, and I more or less convinced myself that trying to use one for hunting would be a little on the foolish side. I had owned several, and I had worked on some in the gunshop, but I just couldn't see the handgun as a hunting arm. I suppose some of my suspicions derived from watching the movie and TV heroes toss lead from the hip with unerring accuracy, and when I tried to sight one in for a customer, I couldn't hit a six-inch bull at 20 yards. Like a good many people, I formed my conclusions without delving into the problem and thoroughly studying it. My haphazard association with the handgun had led me to think that it was an ineffective, inaccurate assembly of many small parts.

If it hadn't been for one man's insistence, I might still think that way. As I recall, this fellow brought a 357 Magnum with a scope on it for me to sight in. I frankly told him that I couldn't do it, and that I would just be wasting his ammo. He simply shoved the revolver and a box of shells into my hands and told me to get started. While he put up a target on





MILLER USES spotting scope to study group fired with PGC-issued 357 Magnum. Note accurized 45 ACP's in shooting box. Such handguns are preferred by many target shooters for centerfire matches.

my 75-foot 22 range, I set up my portable bench on the porch of my gun shop. I sat down at the bench and buried the Magnum deep in a pile of sandbags and let go. The first shot struck high and to the left. I fired again and got similar results. I made several small adjustments on the scope and fired the third shot. I began to get some confidence when I saw that the bullet had moved toward the bullseye. A dozen shots later, I handed him a revolver that had put the last four shots in a three-inch circle. I admit it took a lot of sandbags, and I hung on to the Magnum with both hands, but I found out that instead of shooting all over the target, the bullets landed where I aimed.

Since that day a few years back, I have had a different philosophy about the handgun. I have not become adept with one, but I do know that with practice and patience, the handgun can be used effectively in many kinds of hunting. When I see men such as

Don Miller shoot with remarkable precision from the standard one-hand target position, I know there is no reason why a hunter could not make a clean kill with the proper handgun.

It's a bit confusing for some shooters when they think of the handgun. These one-hand firearms are commonly referred to as pistols. Handgunners generally classify them as pistols and revolvers. Both are handguns, but they are not alike. The revolver has a cylinder that holds the cartridges and revolves with each shot. You flip the cylinder to one side to load and unload. There are two types of revolver, the single action and the double action. The single action requires the hammer to be cocked manually before firing, while the double action can be fired that way also or by just pulling the trigger.

Autoloaders

The term pistol is generally reserved for autoloaders. It operates on a recoil principle. When fired, the recoil pushes the bolt backward, and since the bolt is under a heavy spring tension, it immediately afterward is forced forward, picking up a new round from the clip and shoving it into the chamber. This is done so quickly, the eye cannot follow the action. This type of handgun is not legal for hunting in Pennsylvania.

Single shot handguns are also called pistols by many, which adds a bit to the confusion. These are legal for Pennsylvania hunting.

As far as choosing a handgun for the beginner, I would not recommend anything but the 22 caliber. There are several reasons for this. Even though Don Miller and those handgunners who really burn the ammo can cut the small groups with the big bores, it's unlikely that any novice could do it. Secondly, 22 ammo is comparatively inexpensive, and the new shooter can get the feel of his handgun without going broke in the process.

The basic secret of shooting the

handgun apparently is concentration. On a later occasion when I visited the Ross Leffler School to get some photos of Don, my wife Helen remarked that Mr. Miller looked like a statue in the camera viewfinder. His careful stance, precise hold and excellent trigger squeeze paid off with bullet after bullet hitting the X-ring. Concentration can be seen in the face of a bowler before he rolls the ball, the stare of the diver before he flips into the air, and in the long, long look the golfer takes before stepping to the tee. These people have learned to condition their minds and bodies so they will perform the same each time. The man who is shooting rifle groups has to pay attention to every factor, from holding his breath to squeezing the trigger if he expects to do well. Be repetitious in your handgun shooting, and you will soon start to see results. The beginner can learn valuable lessons from just watching good shooters. If you buy a handgun and ammo and then waste it on tin cans and quick-draw antics, chances are you'll never get much beyond that stage. If you are willing to learn from others and practice hard with a desire to improve, there is no reason to prevent you from using a handgun of legal caliber to drop your bear or deer. (The rimfire 22 and 25 calibers are illegal for big game in Pennsylvania, and in my opinion nothing less powerful than the 357 Magnum should be used for deer or similar size game.)

Beginner's Gun

The beginner should settle for a smallbore target revolver. This type of sidearm has a long barrel and adjustable sights. It can be used for small game hunting, but the hunting part should be forgotten until you can use the revolver with enough precision to guarantee clean kills. The idea is to grow with the sport. Don't buy a Magnum for your first gun and dream of upsetting your deer at 100 yards. I suppose plenty of handgun-

ners can handle the revolver well enough to do this, but the beginner is far from that category.

The glamorous Magnums have drawbacks. Just recently, I fired a 44 Magnum, and, for all-around shooting, I wouldn't want one. The recoil was unpleasant and the noise level unnerving. The chances are good that you will fail miserably with the Magnum, so far as hitting anything at first. I realize that the big swing is to Magnums in every line of firearms. For some reason, all the old conventional calibers in rifles and handguns that were so successful down through the years have suddenly become obsolete. I see this all the time in the rifle category, and, in most cases, the owner of the Magnum traded away a 270 or 35 Remington better suited to his needs than the rifle he just bought. Naturally, the extra power of the Magnums in the handgun line is needed to assure clean kills on big game, but go through a transition period of learning how to use the small calibers be-

NICK HIELMAN, of Kittanning, a long-time hunter and shooter with all types of guns but primarily a handgun fan, here displays his pet Smith & Wesson.





MOST DOUBLE ACTION revolvers have swing-out cylinders which allow simultaneous ejection of all fired cases and fast reloading. Their dependability makes them favorites with law enforcement officers.

fore plunking down a bundle of hard-earned money for a Magnum caliber you might find too hot to handle.

A question often asked around the various sportsmen's organizations is, how much power does the handgun offer the hunter? First, it must be remembered that the revolver cannot fully replace the rifle. Some shooters won't agree with this, but I consider the revolver's effective range to be under 75 yards. If you want a few statistics on the power of some of the more popular models, I'll start with the big boy of them all—the 44 Magnum. From a 6½-inch barrel, it dispatches a 240-gr. slug faster than a common 22 Long Rifle (1500 fps) and it has over 1100 foot-pounds of energy at the muzzle. Even at 50 yards, it still delivers over 800 foot-pounds of kinetic energy. This amount of power compares favorably with the 222 Magnum, is far higher than the old 25-20, and even holds its own with the

famous 30-caliber Army carbine load.

The 357 Magnum kicks the 158-gr. bullet out at around 1400 fps with 700 foot-pounds of punch. This kind of power cannot be overlooked. When you consider that all this energy comes from a barrel less than nine inches long, and from a gun that weighs about three pounds, it begins to make sense that a handgun could easily fill the needs of many a hunter.

Handgun as Hunting Arm

For too many years, the handgun has been thought of only as a gun for protection or strictly for police work. Only relatively few people saw the handgun as a hunting arm. But when you become acquainted with the power and accuracy of the handgun, you suddenly see that it has much more value than just something to puncture tin cans with. Also, when you talk with experts in the Don Miller class or spend an hour with C. J. Clawson of Indiana, who has owned, handled, or shot literally hundreds of handguns, you become convinced you've missed a lot of fine shooting because you don't own one.

Whether you intend to use the handgun for hunting or target, it still represents a mighty good investment. Target shooting can be taken up by the entire family, and handloading for the sidearm can make its ammo the least expensive of all cartridges. For some reason, many women enjoy shooting the 22-caliber revolver, and they often get very adept with one. I could add many more things in favor of the handgun, but I suggest that you find out for yourself. Next time you're getting a gun, instead of buying another rifle or shotgun that may never see much use, add a handgun to your collection and get set for a lot of fun.

Dog's Best Friend

Hunters spend about \$160 million a year to buy and feed hunting dogs.

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COVER PAINTING BY CHUCK RIPPER

Each winter hundreds of Pennsylvania's youths interested in conservation practices learn by doing. Here, Boy Scouts, under the direction of Game Protectors and land management officers, engage in browse-cutting operations in some of our prime deer country. Trees which will not produce marketable lumber are felled, and the tips of branches brought down to ground level provide immediate food for whitetails. When warm weather rolls around, the sprouts which spring up from around the stumps will be an additional food supply for deer.

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Winter and Wildlife

A SHORTAGE of certain natural foods in the forests has led to concern about the possible loss of wildlife due to starvation this winter. While there is some loss of wildlife every year, this winter should not produce abnormal mortality, biologists feel. For the past several years, the winter weather has been mild and food supplies more than adequate, yet there was some winter loss. Pennsylvania never experiences a winter, no matter how ideal the conditions, when there aren't some wildlife deaths. This is a natural phenomenon, and the culling effect or "survival of the fittest" is one factor in maintaining strong and viable breeding stock.

But with a shortage of acorns and beechnuts in widespread parts of the state this year, won't there be greater losses, sportsmen ask. Not necessarily. In the first place, wildlife adapts to changing conditions. Acorns and beechnuts somewhat represent the "icing" on the "cake." Ever eat cake that wasn't covered with icing? Sure, you have, and deer will do the same—or turn to other, more readily available foods. Wild turkeys can be expected to do likewise. Cherry pits, ground pine, ash seeds and roots and tubers found in spring seeps which seldom freeze, constitute excellent turkey foods, and are in adequate supply.

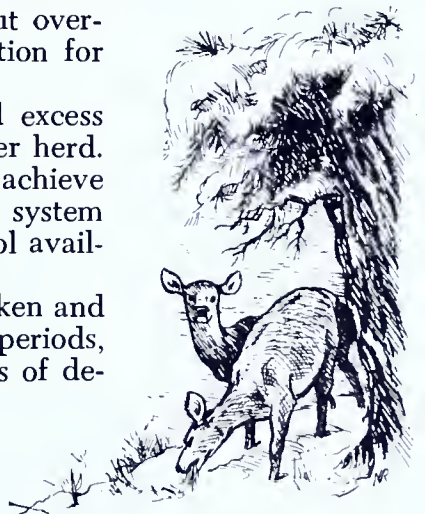
Secondly, man can't always prevent starvation deaths, try as he may. Some wildlife species, notably deer, are known to starve when there are abundant food supplies a few hundred yards away. Deer just will not range far in search of food when the snow cover is unusually deep. It's a physical and economic impossibility for man to set a table heaped with food under the nose of every piece of wildlife.

Thirdly, certain artificial or substitute foods can do more harm than good. Deer have starved to death with their stomachs full of hay. Highly nutritious foods such as hay and corn are actually toxic to deer which have been subsisting for long periods of time on low quality browse (the tender tips of tree branches and other woody vegetation).

The Game Commission for years has augmented reproduction of natural foods. As an example, each dollar paid for an antlerless deer license is spent to cut overshadowing growth to encourage browse production for deer.

The best way to avoid range depletion and excess winter starvation is to control the size of the deer herd. Recreational hunting is the technique used to achieve this objective. Currently, in the case of deer, the system of allocations of antlerless licenses is the best tool available.

When inadequate numbers of whitetails are taken and deep snows cover the deer range for sustained periods, there are more winter-kills than normal. Harvests of desired size combined with mild weather result in fewer losses. In any event, it is unlikely that huge losses such as occurred back in the 1930s will be repeated.—*Ted Godshall, Assoc. Editor*





Some 8000 to 10,000 Years Ago, During the Last Ice Age, Herds of Giant Mastodons Roamed North America's Glacier-Bounded Regions, Including the Area Now Known as Pennsylvania. Last Summer, the Skeleton of One of These Was Found in a Monroe County Bog. Here Is a Report on the . . .

Mastodon at Marshalls Creek

By Donald Hoff

Associate Curator, Natural Science Section
William Penn Memorial Museum

IT IS EXTREMELY difficult to imagine a huge elephant-like mammal, approximately 20 feet long from tip of tusks to drop of tail, roaming through the forests of Pennsylvania. Nevertheless, the American mastodon was here . . . and then vanished. Weighing an earth-shaking seven tons or more and standing approximately 8½ to 10 feet high at the shoulders, an adult mastodon must have presented an awesome sight.

Herds of these giants roamed south of the North American glaciers during the Ice Age, moving to the north as the glaciers melted and retreated. Their dynasty was ended by complete extinction approximately 9000 years ago during the time of the early American Indian.

The American mastodon, a browser feeding on tree leafage and twigs, was apparently fond of the dense forests in what is now the eastern United States. Evidence of this is given by the many finds of mastodon remains in bogs throughout this area.

A peat bog near Marshalls Creek in Monroe County, Pennsylvania, held an almost complete American mastodon skeleton in total secrecy until the remains were discovered and excavated during the summer of 1968.

Mastodon remains are usually discovered accidentally during excavation, mining, or construction ventures. The Marshalls Creek mastodon is no exception, as this skeleton was discovered during dragline peat mining

operations. In dragging an area for peat, a large cable-controlled steel bucket is thrown out and downward from the dragline engine and control cab by motion of a long boom. The bucket is then drawn toward the control cab with its open end and teeth pointing toward the operator. This action fills the bucket with any loose material present along its path of travel.

"Old Stump"

The dragline at the Marshalls Creek mastodon site is operated by John Leap, owner of the Lakeside Peat Humis Company. Evidence of something unusual in Mr. Leap's bog was discovered on July 5, 1968. While mining peat on that day, Mr. Leap threw out his drag bucket for more peat and, during the retrieve, hooked onto what he thought was an old stump. He applied more pressure with his controls and the "old stump" snapped. Mr. Leap dumped this bucket of material, along with pieces of the "old stump," into a waiting truck which hauled the material to a stockpile.

Three pieces of the "old stump" attracted the attention of Paul Strausser, an employe of the peat company, as he was walking along the peat stockpile. Mr. Strausser examined the material closely and thought the specimens to be bone rather than wood. The few visible bone fragments, initially thought to be part of an ox,



LARGE-DIAMETER pipe was set in bog and bailed out to allow search for mastodon bones. Here, Arlton Murray watches Dave Kohler remove sediment.

were removed from the peat and later identified as belonging to the left rear portion of an American mastodon skull.

The remains of an Ice Age monster awaited excavation from ooze deposited through thousands of years. Finally, almost one month after the July 5 discovery, news concerning something unusual at Marshalls Creek reached the William Penn Memorial Museum (Pennsylvania State Museum) in Harrisburg. Robert Michael, assistant chief of security at the museum and a former resident of Monroe County, informed the natural science staff of the recovered bone fragments.

Our natural science staff made a preliminary survey of the bog discovery site and found it covered with about two feet of water. The bog waters lapped against dry land a short distance to the north but extended into a pond to the south. It became evident that a dam would have to be constructed for a salvage operation.

In spite of this obstacle, the excellent bone preservation apparent in the previously recovered mastodon skull fragments favored an excavation project. The bone condition indicated that possibly an almost complete mastodon skeleton was entombed in the bog. With this possibility in mind, proper

institutional-property owner relationships were established with Mr. Leap to excavate the mastodon remains.

On August 8, with all preliminaries settled, a crew from the William Penn Memorial Museum arrived at Marshalls Creek to start operations. Members of the salvage crew consisted of John Schreffler, Donald Heintzelman, Arlton Murray, in charge of bone preparation, Robert Michael in charge of site security, and myself, Donald Hoff, in charge of the total operation. David Kohler and Michael Murray gave needed assistance in the capacity of unpaid volunteers. Property owner John Leap and his employe, Paul Strausser, gave very valuable assistance as equipment operators.

The use of equipment was needed almost immediately to locate the exact position of the bog-contained mastodon skeleton. Fortunately, the general area which contained the skeleton was situated very close to an area dry enough to allow free movement of personnel, vehicles, and the wood mat-supported dragline.

MASTODON'S HUGE lower jawbone gives idea of the extinct mammal's size. Debating next move with it are Arlton Murray and Paul Strausser, who recognized an "old stump" as bone.





AFTER DAM WAS BUILT, careful handwork exposed the skeleton. Workers are Strausser, Murray, Mike Murray, Dave Kohler and Don Hoff.

A corrugated steel pipe, four feet in diameter and four feet high, was chained to the dragline and lowered gently into the murky bog. With the pipe firmly seated in the bog sediments, a crew member lowered himself into the pipe, bailed out the water, and then dug down into the muck to search for bones. All hopes soon were fulfilled; the fourth placing of the pipe and probing from a rowboat located portions of a huge mastodon skeleton.

To isolate the skeletal area from the remainder of the bog, a dam was constructed. The water was then pumped from the excavation site and position of the mastodon remains was further outlined by carefully digging through the muck with hand tools. Mr. Leap then dragline-excavated many tons of ooze from around the skeleton so as to leave it on a pedestal for removal—a time-saving operation.

Excavation of muck from the area indicated that an average of five to six feet of bog sediments had covered the skeleton. The bones were embedded in a soft calcium carbonate-rich marl under the top 2½-foot peat layer that had been removed during discovery. It was the effect of this calcium carbonate environment that had pre-

served the mastodon bones so long.

The salvage site had now been prepared for bone removal. All bones were recovered by digging into the exposed pedestal with hand tools and removing them one by one from their matrix. The skull and lower jaw were removed first and the remainder of the bones were excavated by troweling through the pedestal from the pelvic end.

Tusks Missing

Removal of the skull and lower jaw found the molar teeth in excellent condition, but unfortunately, the tusks were missing. As the tusk cavities in the skull of the Marshalls Creek mastodon are extremely well developed, it is assumed that the animal lost its tusks before it died. The tusks, if present, would have been five to six feet or more in length.

Molar teeth are really of more value in a proboscidian find than tusks. Although possessing similar skeletal characteristics, mastodons are not closely related to elephants and the extinct mammoths, due to comparative differences in molar tooth structure.

As excavation progressed, it became apparent that the Marshalls Creek mastodon skeleton was in a rather

disarticulated (disjointed) condition, a condition *not* caused by the dragline during discovery of the mastodon remains. Some of the ribs and bones of the feet were found approximately six feet from their proper position in relation to the remainder of the skeleton. This would not be the case if the animal had walked into the water and become mired in the muck to a point where escape was impossible. Imprisonment in the muck would have held the bones in place, especially the feet.

How did the life of such a great beast come to an end?

We must bear in mind that John Leap's bog would have been a pond at the time of the mastodon's death. The pond had since filled in with sediments and plant debris to form a bog. The mastodon probably walked into the ancient pond as a very sick animal and died. Although some of the recovered bones show effects of a bone disease, the conditions that caused the mastodon's death will never be known.

A dead animal in a pond will soon

FOOT RULER, near middle, gives idea of skeleton size. Rear limb bones, bottom, pelvis at center, and vertebrae, ribs and front limb bones, top.

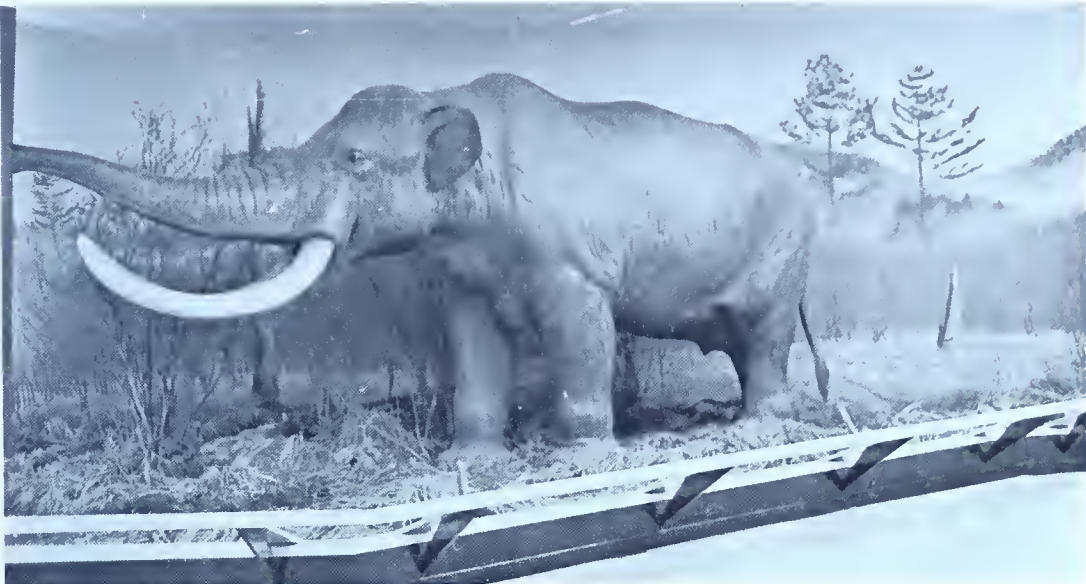


start to putrefy and bloat with gases resulting from decay. The bloated mastodon, assuming that it was not imprisoned in the muck, probably drifted around in the water with its flesh turning into a slime of putrefaction. There might also have been some action by scavengers. Some of the bones possibly dislodged from their proper positions before the remains of the mastodon slowly settled to the bottom of the pond. Excavation revealed that all portions of the huge skeleton were essentially in the same horizontal plane, a condition which seems to suggest the settling down of a dead animal rather than the miring of a live beast.

Excellent Condition

With the bones on the same horizontal level, it was only the huge skull that extended up into the very bottom of the peat layer above. On the July 5 discovery date, Mr. Leap's drag bucket had passed over the entire length of the skeleton, but only the left rear portion of the skull was broken off and recovered by the drag. The tremendous weight of the drag bucket also damaged a few vertebrae and ribs, the two shoulder blades and pelvis. The remainder of the bones were found in excellent condition.

Every bone, including the tremendous four-foot skull, was immediately washed with clean water after removal from the bog. The skull, pelvis, and other large bones were then liberally soaked with gum acacia solution after which soft tissue paper was placed upon them with further application of gum acacia and tissue. Strips of burlap cut from old feed bags were saturated with plaster and placed on top of the gum acacia-soaked tissue. The plaster and burlap, known as "field bandages," reinforced and protected the large bones for shipment back to the William Penn Memorial Museum. The small bones were wrapped individually in paper and placed in boxes.



THIS MASTODON RESTORATION (not the Marshalls Creek mastodon) in the William Penn Memorial Museum shows what these animals looked like in life.

A final survey of the salvaged mastodon skeleton indicates it is approximately 90 percent complete. Among the sum total of 18 mastodon finds in Pennsylvania to date, the Marshalls Creek mastodon represents the most complete skeletal recovery in the state. Skeletal measurements indicate that the Marshalls Creek mastodon stood about nine feet high at the shoulders before death. The huge proboscidean would have weighed about seven tons and measured approximately 14 feet long without tusks.

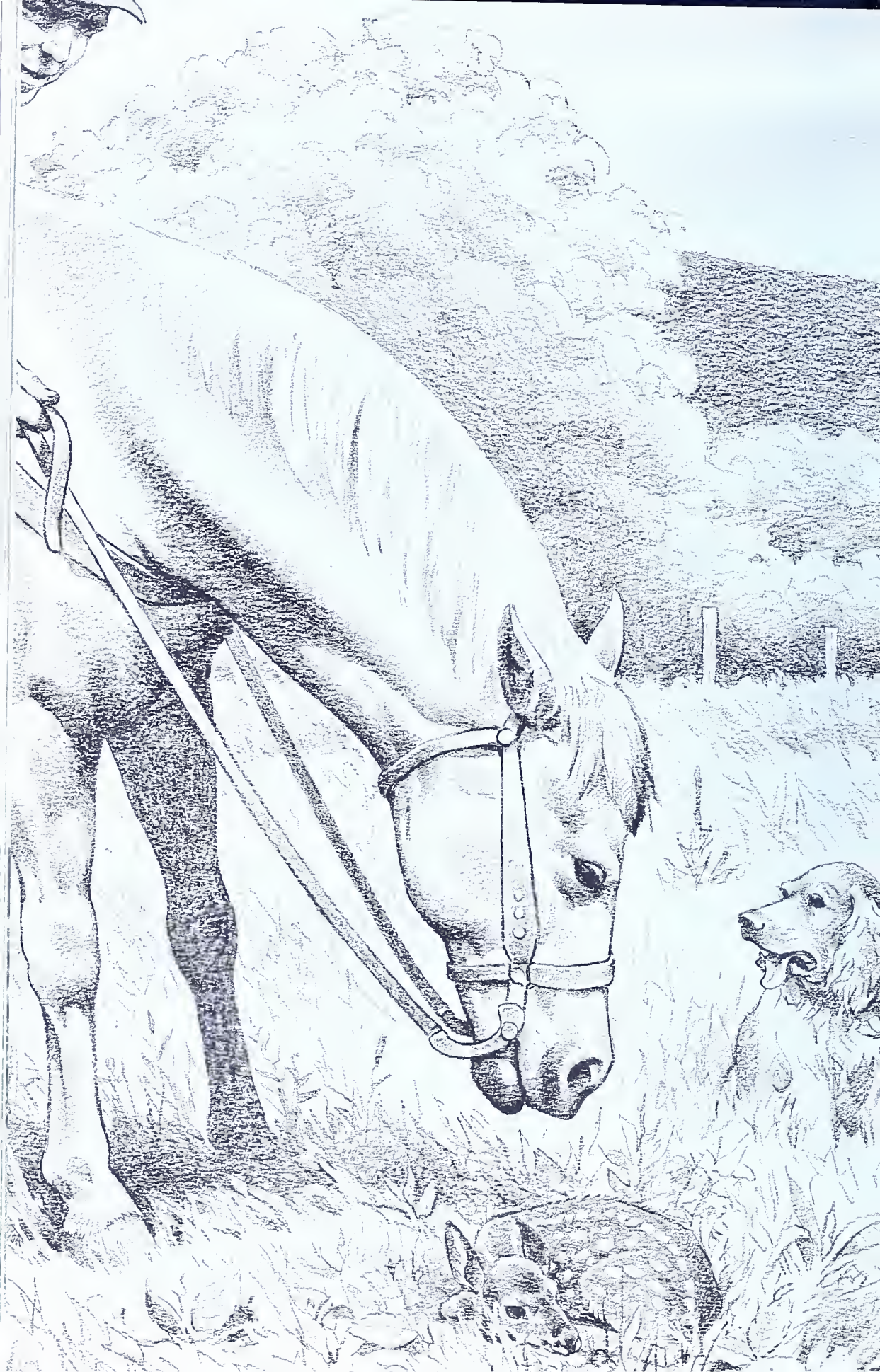
Completion of the salvage project on August 22, 1968, after two weeks of digging, ended only the first segment of a proposed 18-month William Penn Memorial Museum project. The time-consuming work of preparing and restoring the salvaged mastodon bones was completed in December of 1968. Design and construction of an exhibit featuring the Marshalls Creek masto-

don skeleton might consume more than a year's time. Its final appearance has not been decided.

Museum preparators Arlton Murray and John Schreffler completed the preliminary work on the mastodon bones in the third floor Geology Gallery of the William Penn Memorial Museum. Every bone was painted liberally with polyvinylacetate lacquer. The fragments of the damaged bones were placed in their respective positions and joined together with steel rods and glue, while any voids were filled with beeswax. Museum visitors were able to watch the work and ask many questions concerning the multi-stage operation of bone restoration. Visitors may also watch the various stages of final exhibit construction and preparation. We hope that museum visitors will enjoy viewing the Marshalls Creek mastodon through the years to come.

Really Relaxin'

Although they breathe air, painted turtles hibernate under water during winter months, apparently absorbing enough oxygen from the water to maintain the low metabolism during this dormant period.



The Mystery of Scent

By J. R. Matson

ONE OF THE riddles of life here on earth is the mystery of scent—of scent itself and the amazing ability of certain animals to detect it. While we humans may be but casually concerned, the very existence of many of the so-called lower forms of life depends on their sense of smell to elude their enemies, find their mates and their young and help in their search for food. They live in a realm of scent the nature and extent of which is beyond our ability to fully comprehend.

For centuries philosophers and poets have extolled the ability of hounds to perceive the difference in scent of members of a species; to persist in the pursuit of a designated individual of that species; to persevere in spite of difficulties or obstacles. These qualities of a “reliable” hound have ever been valued above gold.

The foxhound that leaves the trail of his appointed quarry for that of another of the same or a different species or the bloodhound that confuses the scent of the criminal with that of an innocent man is classed by the sages of old as “unreliable and utterly worthless.” Yet, much of our current literature on the subject seems intended for entertainment, with slight regard for essential, established facts.

What is known as “common knowledge” is largely based on ancient fables and folklore, and romantic writers add to the confusion. In the popular print we find an eye-witness account of a buck that threw a hound off its trail by running in the wake of a herd of pigs; the fox that foiled its pursuer by walking the rail ahead of a train, by crossing the trail of another fox, by walking in running water or by swimming the river; the wolf that ran over the close-packed backs of a flock of frightened sheep; the escaped con-

vict who wrapped his boots in burlap bags soaked with kerosene—the implication being that keen-scenting hounds are foiled by such devices. So much for the ancient fables and modern, romantic imagination—but “Truth is stranger than fiction.”

It would be bold and presumptuous for a layman, a countryman, to attempt a definitive treatise on a subject that would require a volume by an authority. Then, too, the use of anecdotes in support of a theory is regarded with disfavor in scientific procedure. Be that as it may, what more convincing evidence is available to the average man than the repeated experiments and observations of his friends and neighbors, in local areas, under conditions familiar to all? In any event, it is not the purpose here to *prove* anything or to *thrill* the reader. You are free to draw your own conclusions from what follows.

Older Readers

Older readers of GAME NEWS will remember Harold Moltz of Williamsport as the breeder of a strain of magnificent Irish setters, as a judge of bench and field trials and as a practical conservationist. After years of mutual interest in the study of scent and scenting conditions, Mr. Moltz, then an active member of the Pennsylvania Game Commission, proposed and promoted under the direction of Leo A. Luttringer, a photographic study of the work of hounds on bobcats in Tioga and Potter Counties. At that time (March, 1947) and in the following years the observations and opinions of Messrs. Moltz, Luttringer, D. L. Batcheler, Bob Latimer and others of the Commission have contributed to the study. Over a period of 40 years the unflinching interest, coun-

sel and advice of Fred S. Streever, breeder of the famous strain of foxhounds bearing his name and longtime kennel editor of *Hunting and Fishing Magazine*, is also gratefully acknowledged. These friends and others who knew my hounds took part in one way and another in the study to be summarized here.

Sportsmen and those concerned with the more serious pursuit of criminals have added their findings to the record. All agreed that *something* is given off, that *something* remains in the vicinity as an animal passes on its way. What that *something* is and how it performs is the unsolved problem. It seems clear that scent remains where one thing touches another, as in a footprint. This is the popular belief—the “contact” theory. On the other hand, scent can be detected and its source can be identified where there is no contact. For example, a man riding a horse, or in an automobile, leaves a trail of scent somewhat as an engine leaves a trailing cloud of smoke in the open air or in a subway or tunnel. This concept is known, more or less appropriately, as the “tunnel” theory.

Training

We talk of “training” our dogs. What trainer, however talented, can teach a hound to distinguish, within the space of a few feet, the forward trend of a trail that may have been laid hours or days before, possibly under adverse conditions, by an animal traveling at considerable speed? Who can teach a hound to distinguish the trail of a certain individual, though that trail be overlain by the fresher scent of the same or different species? Yet, a reliable hound performs these seemingly impossible feats without apparent effort.

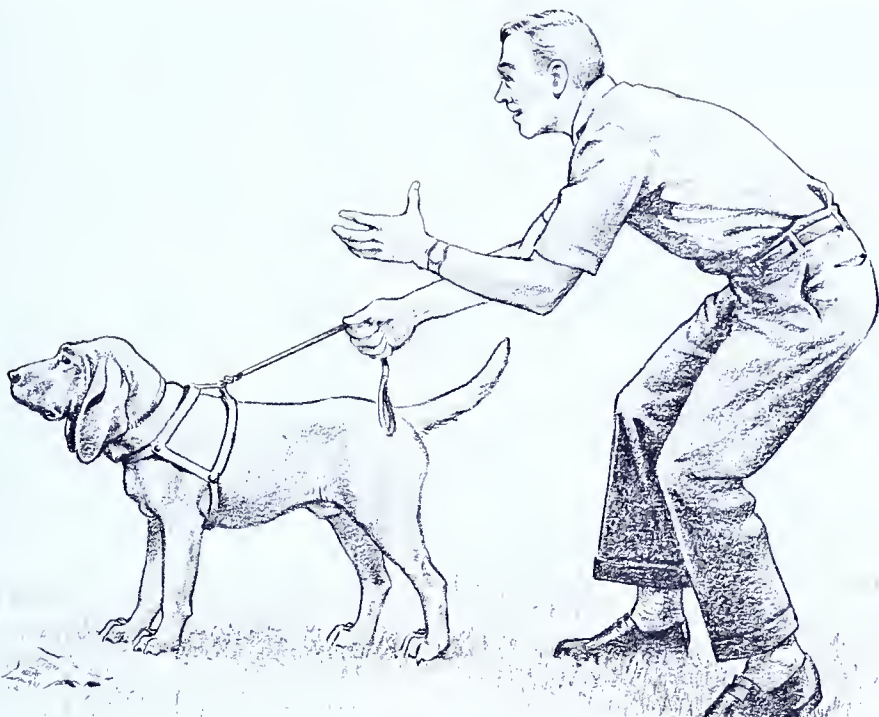
The scenting power of hounds is used in both positive and negative ways. Their ability to distinguish the scent of a designated quarry from all others is demonstrated, *in a positive*

sense, in the search for escaped convicts or lost persons. When properly accredited and handled by a recognized expert, the identification of criminals by bloodhounds has been accepted by the courts in felony cases, including murder.

While not as critically important as the use of hounds in the positive sense, as in man trailing, they are useful, *in a negative sense*, in disproving reports and fallacious beliefs concerning wildlife. For instance, the “scream” of the panther and the “yowl” of the bobcat are quite commonly reported, sometimes in regions where neither exists. Night cries of various birds and mammals are, with a bit of imagination or confusing evidence, quite naturally attributed to one or the other of the cats. The tale of the old-timer thrills with the “blood-curdling scream in the branches over his head as he dozed by the embers of his dying fire.”

Ben Lilly, longtime government predator hunter who probably knew more of cats and their ways than others of his time, or since, declared, “I have heard one squall and spit like a tomcat. I never heard anything like a woman’s scream.” When reliable hounds find no evidence of a cat in the vicinity of such cries, one surmises that the screamer, if not an “evil spirit,” might be an owl, perhaps a fox with a sore throat, but more likely, that talented champion of noise makers, a coyote. Thus the *negative* testimony of hounds is equally conclusive in finding that strange cries are not made by cats.

As an experiment in man trailing, the scent of A, of a group of three men, A, B and C, was given to the hound. The men then mounted their horses and rode together to a point some distance away where they halted while A and B changed horses without dismounting. They then parted, each going in a different direction. The hound trailed and identified his man, A, as he stood, dismounted, among a group at his destination.



HE TRANSFERRED THE LEASH from the collar to the ring on the backstrap, the signal for a chase. "Gone, Duke," he said. "She's gone. . . ."

The trailing of a lost child and the recovery of the body after elapsed time of 105 hours is a matter of official record.

The method of handling a bloodhound and its behavior on the trail was demonstrated by an impromptu event at the rural home of a friend. On the veranda, a mixed party was talking. The use of hounds in the search of lost persons brought expressions of doubt and misgiving, especially from the ladies. At a casual nod by her husband, our hostess entered the house. When she did not return or answer to calls and a search of the house failed to find her, several of the party became alarmed.

Our host brought Duke, a magnificent fawn-colored bloodhound, from the kennel, fitted a harness to his back and shoulders and snapped a short leash to the ring on his collar. Holding the hound's head high he circled the house searching for a clue, a scent guide—anything the missing one had worn or touched. There on

the lawn was the kerchief she had worn. He let the hound smell the item where it lay on the grass while he transferred the leash from the collar to the ring on the backstrap—the signal for a chase.

"Gone, Duke. She's gone. Go on."

Played the Game

Duke had played this game of hide and seek many times. Without an instant's hesitation he took off at a fast walk, straining at the leash. Through woods, brush lots and grassy fields, up hill and down dale, over rocks, sand and mire, along roads and paths traversed by many feet, head up and looking neither to right or left, the great hound kept to the scent as an engine is guided by the rails. At length he stopped before a screening bush and looked up to his master with an expression of pride and pleasure. Unleashed, he found his "lost" mistress hiding behind the bush, all safe and sound. There was no demonstration other than the delight a well-



AS WE SCANNED the hillside above, a fox jumped from a log where he apparently had been listening to our voices.

treated dog is ever prone to give. Duke stood, expectantly, before his quarry. She stroked his silken ears, spoke his name. Still he stood, expectantly, before her until she gave the morsel of food he had learned to expect as a reward. So . . . that was that.

Many hounds that will trail, catch and kill a wild fox or a strange house cat will run down and hold at bay, unharmed, a runaway captive wild animal or a domestic pet. Contrary to advice in numerous books ("Never keep a captive fox near the hounds.") we kept a cub fox on a running-wire close by the kennel where twenty-odd hounds were quartered. When released from their run (a half-acre enclosure) the young hounds would play with the fox, who enjoyed the fun as much as they. The older hounds regarded it as a pest and a nuisance, something to be tolerated but beneath the dignity of their notice.

To entertain our friends on a summer day we often freed the fox, gave it a half-hour start, then put two or

three of the older hounds on its trail. When the baying ceased we would find the little fox, exhausted but unharmed, the panting dogs resting nearby. This was repeated for skeptical houndsmen many times until, in late fall, the fox eluded the hounds among the ledges on Pine Creek near our place.

That scent is not confined to footprints was demonstrated by our hound Fanny as she ran a fox in abandoned farmland where the chase could be observed with binoculars as it traversed the snow-covered fields, woods and ravines below. The trails of fox and hound were, in places, 50 to 100 yards apart. One of the observers, Robert Pinckney an old foxhunter, exclaimed, "Well I'll be darned! I never saw anything like that."

Years ago, before electric refrigeration came into common use, a southern hunter declared that scent would not "lie" in freezing temperatures, the implication being that hounds could not carry a trail under such conditions. Here in the North, winter hunting on snow has always been common practice. It is true that trailing is more difficult under certain conditions, but the following incident shows that low temperature does not necessarily preclude success.

Trail at 34 Below

There is a record of hounds trailing and treeing a bobcat at 34 degrees below zero. It might be argued that the dogs followed the trail by sight or were helped by the hunters. However, this chase covered an area laced with the tracks of deer and other wildlife. The dogs took a trail that might have been hours old and were not seen again by the hunters (including S. C. Pratt and a Mr. Barnes) until at the tree. This way of finding that scent remains at low temperature is not recommended, however, for years later we discovered that fish in the freezer still smell like fish.

How far can scent be detected and

identified? As we stood on the rim of the Pine Creek gorge near Colton Point one fine September day, a faint breeze brought the odor of ripening apples from orchards in the farmlands across the Canyon, miles away. Returning one winter day from a hunt in the Bradley Wales area we noticed that our two hounds Drive and Sailor, as they walked beside us, had detected a scent. Hugh McInroy of Wellsboro casually remarked, "It's a fox—I can smell it myself." As we scanned the hillside above, a fox jumped from a log where it had apparently been listening to our voices.

Peculiar Habit

One of our hounds, Molly, had the peculiar habit of pointing porcupines in trees, sometimes 100 to 200 yards away. And scientists have found that the males of certain species of insects are attracted miles to a mating female.

Some years ago we were camped in a region that had been sparsely settled in pre-Revolutionary times and long since abandoned. As we loaded the hounds in the truck for a hunt some miles away, something suggested that this was one of those times when Fanny, our strike dog, should be isolated. Much to her sorrow and our regret she was confined in a horse trailer that stood nearby. The trailer seemed a secure place of confinement but, knowing Fanny's ingenuity and perseverance, there was room for doubt. Her complaints at being left behind could be heard as we drove away.

We covered several miles over traveled roads and finally one that might once have served as a way for ox-carts. Leaving the truck at an impassable place we continued afoot for a mile or so on a faint trail that soon disappeared (went up a tree into a knothole, as one said). At this point who should arrive but Fanny, a bit out of breath but mighty well pleased with herself. On our return to camp we found that she had mounted the

feedbox of the trailer, applied her good teeth to the half-inch pine panels of the ventilator near the roof and, somehow, scrambled up and through the hole she had made. She had followed our scent on bare ground, in strange territory, over traveled roads, as we rode in the cab, then our course through the brush—not an extraordinary feat for a hound, but further evidence that scent does not necessarily lie only in footprints.

Out for an early morning canter in late May, for no special purpose other than to see what there was to see, our two house dogs, Robin and Laddie (spaniel and collie), had, as usual, invited themselves along. As we crossed an abandoned field bordering State Forest Land, Sam, a big, tough-bitted bay, suddenly stopped in his tracks.



RENOWNED PREDATOR HUNTER Ben Lilly, speaking of the big cats, said, "I have never heard one squall. . . . I have never heard anything that sounded like a woman's scream."

He declined a mild suggestion to go on and gave no indication of the cause of his strange action. After a few moments, Sam put his nose to the ground and there by his right forefoot, flattened and motionless among the weeds, lay a newborn fawn.

It is said that newborn young of certain species give forth no scent.

Though the two house dogs took keen delight in chasing deer from the lawn, in this instance they gave no indication of the scent of deer. It seems reasonable to suppose that every living creature, even a newborn fawn, must give off at least *some* scent, though that of an infant, hidden and motionless, might not be readily detected. Still, it seems that the scent of the mother, who must recently have been in the vicinity, would have betrayed the presence of her young. It appears that only the keen vision of the horse saved the fawn from being crushed by a heavy foot. The answer to this and many problems concerning wildlife must remain for the future to solve.

Thus we learn, bit by bit, something of the mystery of scent and the marvelous ability of keen-scenting animals to solve problems that lie beyond the capacity of our dull senses. Above all, we learn to *trust the verdict of a reliable hound against all contrary evidence and testimony.*

This recital of firsthand experiments

and observations might be continued at length. The incidents mentioned indicate that *something* impalpable, *something* incapable of being perceived by sight or touch or grasped by the human mind, emanates from living bodies to persist temporarily in the atmosphere and adhere more enduringly to the surroundings.

To those who would pursue the subject further, but do not have the time or facilities for experiments in the field, the books listed below are recommended.

RECOMMENDED READING

Thomas, Joseph B., *Hounds and Hunting Through the Ages*, Garden City Publishing Co., Garden City, N. Y., 1937.

Whitney, Leon F., *Bloodhounds*, Orange Judd Publishing Co., New York City, 1947.

Williams, Roger D., *The Foxhound*, Macmillan Co., New York City, 1932.

Streever, Fred S., *The American Trail Hound*, A. S. Barnes Co., 1948.

Barker, Elliot S., *When the Dogs Barked Treed*, University of New Mexico Press, Albuquerque, 1946.

Stevens, Montague, *Meet Mr. Grizzly*, University of New Mexico Press, Albuquerque, 1944.

Book Review . . .

The Complete Walker

Americans have a thing about walking. Young mothers love to brag how early their children walked, but it's a chore all give up during pre-kindergarten days in this society of the wheel—which may be the reason Bill Styron's novel, *The Long March*, about a piddling 20-mile jaunt, sold so well. Colin Fletcher knows infinitely more about walking than Styron, and he's a more entertaining writer. Though this title, *The Complete Walker*, lacks the magic of his earlier *The Thousand-Mile Summer* and *The Man Who Walked Through Time*, it is accurate. It would be hard to find a more informative book on the art of putting one foot ahead of the other, particularly in regard to the backpacker's equipment and wilderness technique. Though to many the subject might seem pedestrian, Fletcher's talent for recalling experiences as they actually happened—which somehow is never quite the same as expected or as the "experts" would have us believe—leavened with a sense of humor that borders on the weird, makes for fascinating reading. Here's the real dope on walking, be it for an afternoon or three months—the how, where, when and even the why. (*The Complete Walker*, by Colin Fletcher, Alfred A. Knopf, 501 Madison Avenue, New York City 22, 1968. 365 pp., \$6.95.)



THIS PHOTO OF Dr. Charles C. Norris was taken in 1930 at Abernathy Farms. The dogs are Lad and Sadie.

Passing of a Pennsylvania Sportsman

By George Bird Evans

Photos From the Author

MY FIRST contact with Dr. Norris was a response to an ad in which we offered a litter of setter puppies for sale. Dated August 18, 1952, under the letterhead *Dr. Charles C. Norris, Fairhill, Bryn Mawr, Pa.*, the note said he wanted "... a handsome, blue or orange belton that is well trained, moderate range, stanch & that will retrieve." My reply that we had no mature setters available would normally have terminated the correspondence but something kept us writing.

Here on the table are the ninety letters Dr. Norris wrote me. Gradually a picture of this man emerged — no longer young, a man who lived primarily for gunning.

"I have been fooling with setters & pointers for 50 odd years. Last sum-

mer Nininger sent me an untrained 18 mo. orange belton female. I bought her for my wife not thinking ever to use her. In despair of getting a decent shooting dog I bought a 3 yr. pointer female, untrained. I started to train her and also gave the setter a chance. Charm, the setter, now has a slashing range of 100 yards, proved to have a good nose. Two weeks ago & without having seen a bird brought in, she started retrieving & has brought in her last 11 pheasants.

"Both young dogs are coming along finely. I am 76. I give each dog 2 hours & that is enough for their handler. Don't forget our latchstring if you are in Philadelphia. Excuse scrawl and haste."

In July of '53 Ruff and Wilda pre-



THIS "LITTLE PURDEY" was a favorite gun of Dr. Norris for upland game. Now a prized possession of the author, it is an outstanding example of the gun-maker's art.

sented us with another litter and I wrote Dr. Norris, remarking that if he was an M.D. he could have been useful from the afternoon throughout the night while Kay and I attended.

"Glad to hear of your fine puppies," he answered. "I doubt if I could have done as good a job as you did when your setter whelped though until I retired eleven or twelve years ago I was Professor of Obstetrics and Gynecology at the U. of P. Med. School. I ceased practice at the time I retired from teaching and live on 100 acres out here.

"After quitting I wrote *Eastern Upland Shooting*. It was good fun and curiously the book had a bigger sale than any of my six medical efforts. If I can find a copy of *E.U.S.* I will send it to you."

When my copy of *Eastern Upland Shooting* (Lippincott, 1946) arrived, the description on the dust jacket gave us a further glimpse into the background of this man:

"Born in 1876 in Philadelphia, Dr. Norris has been interested in shooting and fishing since boyhood days, and has been fortunate in possessing the means to follow both through the seasons. He has made eighteen fishing and hunting trips to Newfoundland

and Labrador, twenty-seven trips to the South during quail season, and many expeditions to Nova Scotia and New Brunswick for woodcock."

A note dated November 30, 1953, stated that Mrs. Norris had died. From time to time his letters arrived, written in the unmerciful prescription hand.

"Why don't you pay me a visit for a few days? I would love to have you. A big house. I am the only occupant. Bring your dogs. I will be 78 on June 1st so do not put off your visit too long."

In October, 1954, we accepted his invitation to come over to shoot at his pheasant club. It was twilight when we located Fairhill on a back lane in Delaware County near Bryn Mawr. Autumn was at its throbbing height and this unfamiliar land with its impressive country houses was lovely.

Impressive Home

I had suspected Fairhill would be unusual. Ivy-covered stone, huge in the dusk, it was something short of a small castle commanding a scope of grounds—I am tempted to say park—sloping on both sides and the end of the ridge. A wing, blind with ivy, bore a Tudor-stained glass window at the near end. No lights were visible as we pulled our station wagon into the turning circle. A little numb from the long drive, we mounted the steps and pushed the bell button. Indoors a dog barked.

An elderly maid let us into a hall that reached to the ceiling of the second floor. Caribou and moose heads peered down from dim walls and a lamp revealed a carved mantelpiece. Upstairs, the dog barked again, and then someone was coming down the stairs.

I had pictured him, the way you do, as tall and lean. He was not over five and a half feet tall and I would guess he weighed 160—quick-moving, pink-complexioned, with thin white hair and blue eyes behind round steel-framed glasses. He had the sensitive

mouth and nose of his early Norris ancestors—the ones who came to look after Penn's Woods—and the same intelligent brow. An incredibly fat liver-and-white pointer and equally fat orange belton setter waddled from the shadows and sniffed me.

Slashing Range

As I patted them, the phrase "slashing range" from his letter came to mind. He read my thoughts but addressed the pointer: "Yes, my dear, you're much too fat. You too, sweetie girl," he turned to Charm. "And so's your boss." He pulled the tweed jacket together and got the lower button fastened. "Well, now, how many dogs did you bring and have they eaten?"

Just then the thin maid reappeared with a pan of cooked meat in each hand.

"Two," I said, appreciating the maid's appraisal. "Ruff and Feathers."

"Fine. Mary—" he turned—"show Mrs. Evans to their rooms. We'll have dinner at six-thirty."

It gave me twelve minutes to feed my dogs, unpack and dress.

Mary served the roast pheasant, stepping expertly over Charm and Nellie. Six tall candles in silver candelabra burned low as we sat on at table, Dr. Norris talking around the pipe held in the center of his teeth. Nellie came over and laid her head in my lap. Dr. Norris suggested we take care of our dogs and turn in.

I fell asleep half dreaming I was a guest in an English country house. Tomorrow I would be shooting pheasants.

The next two days' shooting at the preserve were my first on pheasants but at least the dogs made a better showing than I. Dr. Norris and I shot in separate coverts and each time I heard his Purdey's single report—never twice—it meant a pheasant.

I thought about this man living alone with two dogs and three house servants and a chauffeur to look after him—a carry-over from an age when

men of means traveled great distances in pursuit of sport, who shot thousands of shells each season, men who fished wilderness salmon rivers and waters of the famous trout clubs.

His two closest shooting and fishing friends had been Dr. Williams Biddle Cadwalader and Lynford Biddle, with whom he shot woodcock in Nova Scotia and New Brunswick and grouse in the Poconos and around Ellsworth, Maine. Dr. Cadwalader and Dr. Norris shared a suite of offices at 36th and Walnut in Philadelphia, where it would seem a certain aura of stream and field existed. Now those companions were gone and I seemed to be transported to that earlier period to share it with him.

I'll always remember Dr. Norris's gun room, steeped in the aroma of Hoppe's No. 9, the uncarpeted floor saturated with gun oil. There were some of the photographs which appeared in *Eastern Upland Shooting*, and part of his sporting library was in the adjoining study.

I got to know this library on one visit when a 14-inch snow cut short our shooting and isolated us at Fairhill. Fairhill, with its 18th Century

FAIRHILL, the doctor's home, was huge in the dusk. Of ivy-covered stone, it had a Tudor-stained window at the near end and commanded a scope of grounds.





THE AUTHOR'S DOG DIXIE, working pheasants on her first trip to Fairhill. She, of all Evans' setters, was Dr. Norris' favorite.

portraits looking down on an overflow of books, its great hall with the rack of walking sticks, the aroma of good pipe tobacco and the click of dog feet on hardwood floors, was a good place to weather out a storm.

Dr. Norris, aside from his place in the Main Line pattern, was a top figure in the medical world. But if he could return now for one day of life, I'd wager he would spend it with the Purdey in a good covert behind Nellie and Charm, and not at the Philadelphia Club or University Hospital.

In October of '57 he wrote me: "Thank you for your nice article on gun fitting. My own experience is somewhat like yours. I have just read it a second time. I think you were right about straightaway birds.

Sincerely,

Charles C. Norris

"P.S. Think of me sometime when you take an old cock grouse. My word! I would like to be with you. There is no good thinking of it for I can't walk much anymore. Tame pheasants all I can manage."

Our 1958 October visit gave Dixie her first taste of shooting. The sport was good and the finest part was seeing Dr. Norris in such splendid spirits. As we drove off for home his parting words were, "You can leave that little Dixie here with me anytime you want." He was standing in the open doorway, flanked by his two plump girls, and the upraised hand waving a farewell seemed to beckon us to return.

In January of '59 we had one of his cheery letters.

"Dear George and Kay,

"Glad your Dixie is doing so well. To me training is one of the most interesting sidelines of upland shooting. My congratulations on your shooting. Years ago I or my dog moved 57 grouse in one day in Penna. Had 3 shots, killed one in the ordinary manner, got another with an extra long crossing shot (sheer luck) & missed the easiest shot of the lot."

One month later we received a note, dated 19 Feb. '59.

"Last Sat. a week I slipped on icy

steps. Broken leg. I am in a cast in the Bryn Mawr Hospital & will be here for at least 2 weeks more. Little Nellie takes it hard. Sorry to write such a letter but the latchstring will be out later. Have missed a lot of nice days shooting. You and I will have some real sport next fall."

Ten Letters

We went over to Fairhill in June and found Dr. Norris looking fairly normal other than the limitation of the cane. We spent the time mostly talking shooting and viewing Kay's movies taken on our former trips.

There were ten letters from June until the end of 1959.

"October 30, '59. Went to preserve last Monday. Three pheasants and 1 mallard. Two nice points, one a double & the duck happened to fly over. Longest walk I have attempted. In bed an hour after getting home. You never saw anyone so soft. Miss that nice little Dixie and your other handsome dogs."

"November 11. Managed to miss 3 cock pheasants yesterday & that after killing the first 9 this season with 9 shells. A bum shot always has an excuse. Mine was I was sick all over the preserve. Am O.K. this a.m. Be sure to keep a date open for your visit here. Do not make your stay too short."

Last Gunning

That day was Dr. Norris's last gunning. In our letters we continued to pretend we would be shooting together again but Anno Domini would not relent, even for the finest shooting man I have known. Another letter came in:

"Feb. 16, '60. The grave M.D.'s keep telling me 'go slow, go slow' which I do not like much. Except to clean, oil etc. have not had a gun in my hands for months."

When we visited him in June of 1960 Dr. Norris was obviously not well but his spirit was unchanged. He in-

sisted that we all drive to a field trial for an hour, stopping off at the University of Pennsylvania Veterinary School where I met his friend of many years, Dr. Mark Allam, the Dean.

We tarried over our final breakfast at Fairhill while Dr. Norris fed his scrambled eggs to Nellie and Charm in turn from his fork. As we drove off he waved good-bye to us from the window of the small front parlor instead of his usual position in the entrance.

On Sunday, February 26, 1961, his nurse phoned to tell us that Dr. Norris had passed away. When I inquired about Nellie and Charm, she said Charm had died two weeks before. Nellie lasted only a month.

Dr. Norris paid me two high compliments—to want me as a friend and to want me to have one of his guns.

DR. NORRIS shows off Nellie and Charm, his last dogs. Charm died two weeks before the doctor, Nellie lasted only a month after his death.



I think of him each time I "take an old cock grouse"; or when the woodcock flight is in; he is beside me when I open *Eastern Upland Shooting* and each time I touch the little Purdey; we think of him when one of us calls Dixie "Sweetie Girl." And in his letters he is on every gray-threaded page.

He is very much in the pages of his

gun diary which I had the privilege of examining in his study at Fairhill two years after his death. Sitting at his desk where he had written all those letters to me, I knew, as I closed the heavy covers of his diary, that I was closing them on a way of life. With the passing of Dr. Norris an era had ended.

Days of Yore



AT ONE TIME OR ANOTHER, every old-time deer hunter regales us with tales of the "good old days." How good were they, really? Times, equipment, the forest and a lot of other things have changed in the 40-odd years since this photo was taken. Most of the hunters in this group, which includes my dad, Elmer (front row, fifth from left), were from the York area. Dad says they hunted hard for a week and saw lots of grouse and regarded four deer for sixteen men a great accomplishment. The hunt took place in the Haneyville area, and only one other group of hunters was encountered. So Dad, now 75 and hunting every fit day and some not so fit, says some of the deer "cranks" who cry for the "good old days" better think twice or check their memories!—Glenn L. Bowers, Executive Director.

Biennial Report of the

PENNSYLVANIA GAME COMMISSION

A Summary Covering the
Period from July 1, 1966,
Through June 30, 1968

Game Harvest

Although the total number of a game species harvested is not the only criterion in evaluating a wildlife management program, it is still considered the most reliable method for comparative purposes. The record number of antlered deer killed in 1967 without any apparent harmful effect on the present deer herd is the outstanding accomplishment of this biennium.

Species	1967	1966
Deer, Legal Antlered	78,268	58,722
Deer, Legal Antlerless	66,147	60,031
Total Deer	144,415(1)	118,753(2)
Bears	568	605
Rabbits	2,870,000*	3,390,000*
Hares (Snowshoes)	6,000*	1,288**
Squirrels	2,680,000*	2,105,000*
Raccoons	137,201**	132,218**
Wild Turkeys	24,500*§	20,000*
Ruffed Grouse	470,000*	470,000*
Ring-necked Pheasants	1,015,000*	825,000*
Quail	23,000*	14,000*
Woodcocks	75,000*	75,000*
Rails, Gallinules and Coots	12,078**	7,767**
Wild Waterfowl	81,561**	70,037**
Woodchucks	344,778**	319,073**
Doves	258,661**	155,320**
Total Number	8,141,262	7,704,061

Big Game, based on individual reports filed by hunters.
* Based on calculated minimum harvest.
** Based on Field Officers' estimates.
(1) Includes 3,251 Deer killed during the 1967 Archery Season.
(2) Includes 2,337 Deer killed during the 1966 Archery Season.
§ Includes 1,500 killed during Spring Gobbler Season 1968.

The Fiscal Picture

The increased revenue for the biennium is basically the result of increased license sales reflecting the excellent recreational opportunities provided by hunting to both resident and nonresident hunters.

	1966-68	1964-66
Cash on Hand—Beginning of Period	\$ 5,302,371.90	\$ 3,559,335.52
Receipts During Period	18,372,700.60	15,198,911.43
Total Cash Available	\$23,675,072.50	\$18,758,246.95
Expenditures During Period	16,201,972.05	13,455,875.05
Cash on Hand—End of Period	\$ 7,473,100.45	\$ 5,302,371.90
Detailed Expenditures:		
Land Management	\$ 6,993,988.25	\$ 5,772,275.03
Law Enforcement	3,189,624.12	2,976,721.37
Propagation	1,770,954.41	1,826,102.36
Administration	841,654.62	682,390.13
Other (a)	3,405,218.65	2,198,386.16
	\$16,201,440.05	\$13,455,875.05

(a) Research, Training School, Employee Benefits, Information and Education, Appropriations to other State Departments, Miscellaneous.

	6-30-68	6-30-66
Capital Assets	\$10,885,864.44	\$ 9,963,207.25

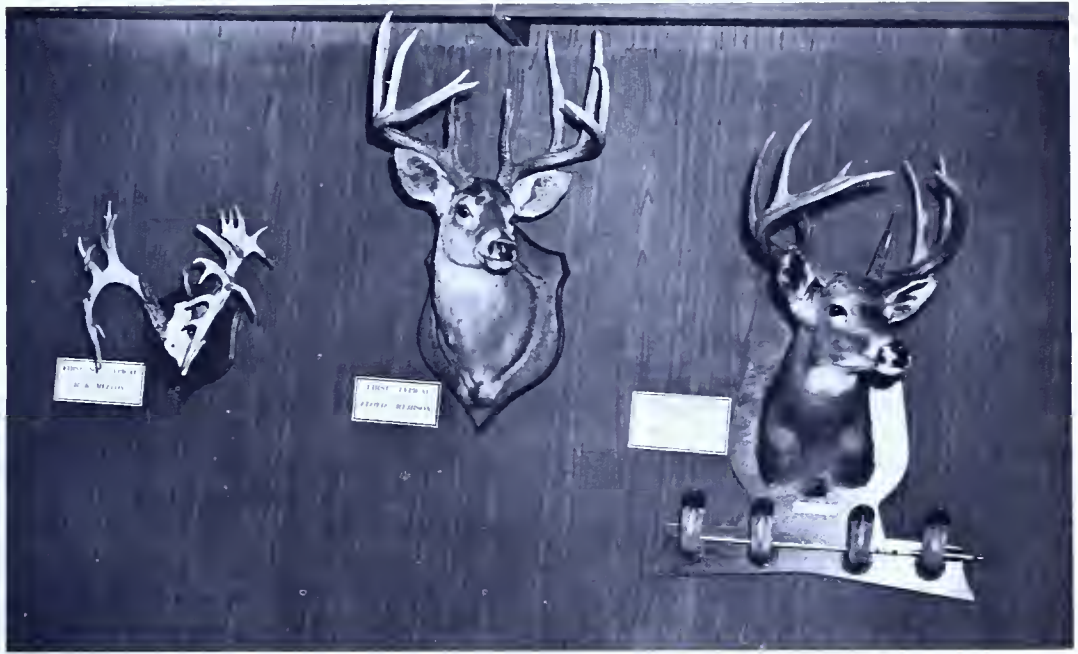
Propagation

The Commission continued to operate six Game Farms for the production of ring-necked pheasants, bobwhite quail, mallard ducks, and wild turkeys. The pheasant chick and rabbit trapping programs were conducted in cooperation with sportsmen's organizations and farmers. Game reared, bought or trapped and released included 457,069 ring-necked pheasants, 59,393 cottontail rabbits, 24,331 bobwhite quail, 19,307 mallard ducks, 13,768 wild turkeys, and 317 Canada geese.

License Sales Keep Climbing

License sales for the period show a significant increase in all major categories. The increase in nonresident sales is evidence that the quality of hunting in Pennsylvania is continuing to gain favor in other states as well as with Commonwealth hunters.

	1966	1967
Resident Hunting Licenses	931,239	988,463
Nonresident Hunting Licenses	62,654	72,535
Nonresident Regulated Shooting Grounds Licenses	2,437	2,297
Archery Licenses	92,792	110,051
Antlerless Deer Licenses	376,598	444,913



Deer Records Program

More than 1400 deer racks were measured and recorded during the spring of 1967. The entire program is designed along the same principles as adopted by the Boone and Crockett Club. First-place winners in the typical, non-typical and archery categories received beautifully engraved bronze medallions.

Triple Trophy Award

The Commission presented a new program to our sportsmen in 1966 known as the Triple Trophy Contest. The award is offered to those who take a turkey, bear and antlered deer during the same hunting license year. Sixty-seven hunters qualified for the award in 1966. The number of winners increased to 110 in 1967, which may have been due to 33 hunters bagging turkeys during Pennsylvania's first spring gobbler hunt in May, 1968, which was within the 1967 license year.

Hunter Safety

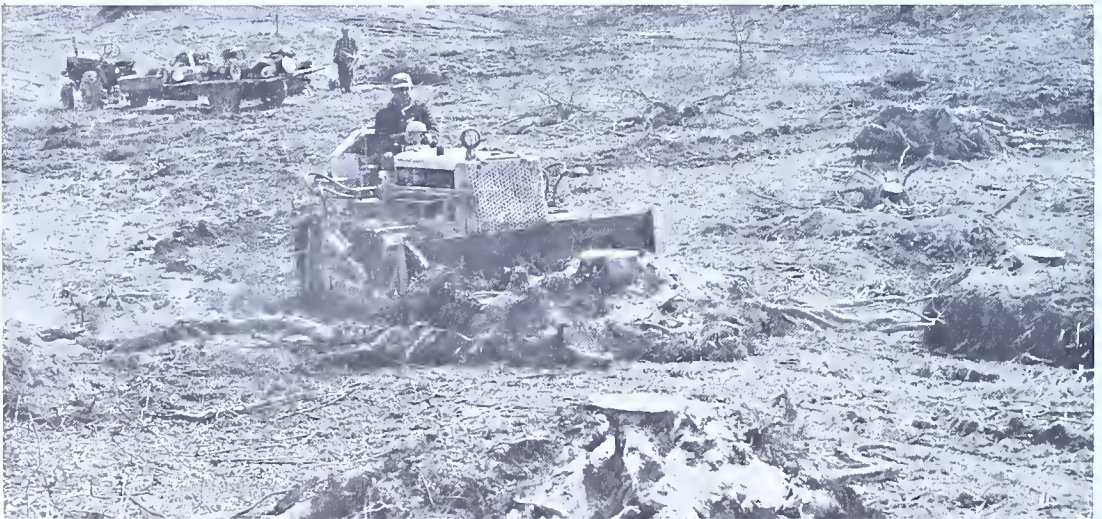
The Hunter Safety Training Program has been presented by the Pennsylvania Game Commission since 1958. For the first 10 years the program was on a voluntary basis. From July 1, 1966, to June 30, 1968, 1,736 instructors and 61,304 students were certified, making a total of 9,211 instructors and 163,197 students. Many sportsmen's organizations supply excellent instructors, and these same groups often offer their clubhouse facilities for instruction periods. In many instances the students are allowed to use the club shooting facilities.

The Land Story

At the close of this biennium, 235 units of land totaling 1,051,106 acres were owned by the Game Commission, a gain of over 15,645 acres during the period. This land, which is available to use by hunters and others, was acquired by the Commission over the years at an average cost of \$8.93 per acre.

Other data related to land management and development during the biennium includes:

- Through various types of cutting, the Food and Cover Corps developed over 8250 acres for wildlife.
- Sale of forest products, including over 8½ million board feet of sawlogs, netted \$403,725.
- Over 590,000 evergreens and 1,669,795 food-and-cover-producing shrubs were planted on State Game Lands by Commission personnel.
- The Howard Nursery distributed 9,360,730 seedlings during the biennium.
- Farm Game Cooperative Section—Addition of 125,628 acres brought the total under this major program to 1,686,777 acres on 14,454 farms.
- Safety Zone Program—An increase of 295,727 acres on 1064 tracts brought this important program, which opens private land to public hunting, to 14,195 tracts totaling 2,692,249 acres.
- Federal Aid in Wildlife Restoration (Pittman-Robertson) funds of \$1,672,991 were spent to improve game habitat.
- Project 70 Report—Of the 15 counties in which Project 70 purchases have been made or planned for, acquisition work has been completed in four and approximately 75 percent completed in 10. One project is dormant.
- Land and Water Conservation Fund Act—Four Game Commission projects for cost sharing with funds available through this act have been approved by the State Planning Board and are being processed by the Bureau of Outdoor Recreation, U. S. Department of the Interior, administrator of the act.
- Project 500 (Land and Water Conservation and Reclamation Fund Act)—The Game Commission received an allocation of \$5.6 million to be encumbered before July 1, 1969. Three projects totaling \$1,010,740 were approved by the State Planning Board and the Governor. Seven other projects were submitted and are under review.
- Total land under Commission management, including Commission-owned land, private lands, refuges in State Forests and all other public lands, increased from 5,216,611 acres to 5,443,780 acres.



Game Law Amendments

Sixteen amendments were added to the Game Law in this period, most at the request of the Commission to meet the demands for new game management methods and necessary controls. Significant amendments made by the legislature included:

- Section 702 amended to provide for changes in shooting hours.
- Section 301.1 (to become effective September 1, 1969) providing for mandatory course of instruction in the safe handling of firearms and bows and arrows.
- Section 704 amended to provide for further regulating the spotlighting of big game.
- Section 807 amended to provide for further regulating shooting near highways.

Prosecutions

In this two-year period, Game Commission officers made 15,198 prosecutions while enforcing the Game Law. Penalty payments totaling \$460,350 resulted from these prosecutions.

Training

The thirteenth student class of Game Protectors began training at the Ross Leffler School of Conservation in March, 1968. The school also conducted the first Youth Conservation Awards Day, as organized by the Pennsylvania Federation of Women's Clubs, and handled numerous meetings and classes for Deputy Game Protectors, Boy Scouts, outdoor writers, legislative committees and other organizations.

Minerals

Royalties from natural gas and other income from gas and oil operations on Commission land totaled \$93,886. Coal stripping royalties were \$23,955; income from removal of sand, gravel and stone was \$19,468.

Miscellaneous Costs and Revenue

During the biennium, the Commission received funds from incidental operations and paid claims in wildlife damage cases. The sale of deer hides, permits for fur dealing, dog training, propagation, falconry, etc., and the sale of firearms and furs added approximately \$78,698 to the Commission treasury. Paid out for bear damage claims and deer-proof fence materials was \$21,720.



Research

Important wildlife studies continued in four major areas—on the white-tailed deer, the cottontail rabbit, the ring-necked pheasant and the wild turkey. These studies are continuously yielding data that improve game management methods.

- **White-tailed Deer Study**—Biologists are investigating nutrition and food preferences, disease and parasites, habitat manipulation and conflicts, and population dynamics.
- **Rabbit Study**—Radio-telemetry equipment is being used to study seasonal movement and behavior. Population fluctuations, disease and effects of hunter harvest in different types of cover are being studied.
- **Ring-necked Pheasant Study**—Analysis of habitat types has led to a clear definition of the contribution of pheasants produced in the wild and at Game Farms. Modifications in the Game Commission's management and stocking programs have resulted, benefiting both the resource and the hunter.
- **Wild Turkey Study**—Range mapping and determining population densities and composition led to Pennsylvania's first spring gobbler season in 1968. Experimentation is continuing with the Korean ringneck in hopes of finding a species adaptable to non-typical pheasant range.

Hunting Accidents

During this period, 39 fatal and 927 non-fatal accidents occurred. This was a rate of one fatal accident for each 52,689 hunters—a great decrease over the one fatal per 38,959 hunters during the previous two-year period. Nine of the fatal injuries in the 1966-67 period were self-inflicted.

Information and Education

Official news releases covering Game Commission activities of interest to sportsmen were mailed at least once each week to 273 newspapers, 141 radio and television stations and 78 outdoor writers.

Sale of various books on Pennsylvania wildlife, bird and mammal charts, and GAME NEWS subscriptions brought an income exceeding a quarter-million dollars in 1967 and totaling \$438,115 for the biennium. Over 37,500 requests for information were processed during this period. Field and office personnel presented more than 25,000 programs before 1½ million people, and in cooperation with WITF-TV, Hershey, an hour-long outdoor program began showings on a monthly schedule in 1967.

Game News Growth

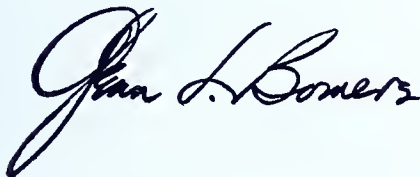
The Pennsylvania GAME NEWS continued to add readers, with an increase of approximately 12,000 during the biennium, making a total circulation of more than 180,000. GAME NEWS is the most widely circulated state conservation magazine in existence. More than 29,000 copies go to the 49 other states and 27 foreign countries.

Respectfully submitted,

Frederick M. Simpson, President
R. G. Smith, Vice-President
Robert E. Fasnacht, Secretary
Nicholas Biddle
H. L. Buchanan
Russell M. Lucas
James A. Thompson
Loring H. Cramer

ATTEST:

Glenn L. Bowers
Executive Director





N. Rosato

Once-in-a-Lifetime MEMORIES

By Les Wood

IT WAS ONE of those days! Mid-May but rare as any day in June. Trout were biting freely and my creel was getting heavy. If my count was correct I had just about a limit of nice brook trout. And now here was this long beautiful pool, my favorite spot in the whole valley. I dumped out my trout on the short clean grass and gathered watercress from a nearby spring run to line my basket. I dressed out the trout and placed them one by one on the bed of cress. I was just one short of my limit.

It should be easy to take another one from a pool like this. I picked up my rod and cast the string of wet flies to the tail end of the deep riffle and almost at once was tied into a good-sized brookie. As I reeled him in, my gaze caught a movement near my basket and I turned just in time to see a mink with one of my trout in his mouth making for his hole under an old log! The law doesn't provide for taking another trout under such circumstances so I was still short one, but in exchange I had another of those unusual animal acts to record in my notebook.

How much more entertaining it is to watch what animals really do than to speculate about what they are supposed to do. What they do depends on whether they size you up as a friend or an enemy and whether they prefer to take a chance on you or get out of there fast. Sometimes it's a hard decision. Deer, for instance, usually don't believe their own eyes so long as you stand perfectly still. They want a whiff of scent. I once had a doe deer come within ten feet of me on the windward side. She stomped and snorted and tried her best to make me

move. After a bit she started working slowly around to the other side where she got my scent and then took off as if scared half to death.

I believe bears have better eyes but not as good a nose or ears as a deer. I have crept within three feet of a large bear by keeping a tree between us and taking advantage of a gusty wind. Somewhere along the line I got the crazy idea of spanking that big fat rump. I got close enough but wasn't fast enough. An erratic little breeze gave him my scent and he literally jumped out from under my hand. Most bears are good natured and will put up with quite a lot before getting angry. I gambled on this fact and won. He didn't get mad at all. He just looked as though he felt pretty foolish letting me get that close. I've never been able to get quite that near to a deer under similar circumstances. But they all have their shortcomings and by taking advantage of them one can discover a lot of extraordinary things.

Interdependence

There is an interdependence among animals and birds that is well recognized but its extent not too well known. When a blue jay begins to scream, "Here — Here," the hunter knows he is being advertised all over the place and the animals all sit up and take notice. The fact that the old blue loudmouth often lies about it doesn't seem to make much difference.

I never knew that deer and turkeys have a mutual defense pact until one wild and windy day when I was amazed to discover that they do. I had some time to kill and decided to spend it practicing on my turkey call. I had no illusions about calling a tur-

key on such a day, but you never can tell. I was on top of a mountain so I went down on the sheltered side some fifty yards into the open timber. There were a number of cradle-knolls with unusually deep depressions behind them and I picked out the deepest, fixed myself a seat and started calling. From below I was well hidden, but from right or left I was still in plain sight.

Almost at once a doe deer came trotting toward me from around to my left. When she got quite near she stopped and began going through the motions of feeding. There was no browse and dry leaves covered the ground. Watching closely, I discovered that she was picking tiny bits of moss from old logs and scattered pieces of wood. All this time I was using the



A CHIPMUNK RACED through the dry leaves, saw me and jumped behind the trunk of a big tree. Now and then he would peek out to see if I was still there.

turkey call regularly. As she came nearer I stepped up the volume and tried my best to make her look my way. There was just nothing I could do with that turkey call that would induce her to look toward me. Occasionally she would raise her head and look down the mountain or back the way she had come. On windy days such as this, deer are extremely restless and jumpy. Scent is erratic. The woods are so noisy it is difficult

to sort out all the sounds. Sight is about all a deer has left and that is notoriously poor. If only they can find some turkeys, they feel safe. They know turkeys depend on their eyes. And what eyes they are! They don't need anything more.

Found Her Turkey

This doe had found her turkey and she was perfectly happy. At one time she was picking around among the dry leaves on the opposite side of the knoll I was hidden behind. I kept my head down and peeked out at her from under the visor of my cap. She was within arm's length. I could have reached out and touched her, only I didn't want to scare her. Right then I gave out with a long series of yelps as loud as I could make on that caller. The only result was that she raised her head, turned directly away from me, glanced briefly down the mountain and then resumed her feeding. This was the most remarkable of all the many experiences I have had with animals at close range. She just knew there was a turkey nearby and since they are usually out of sight anyway she didn't bother to look. If ever there was a demonstration of one species of wildlife putting its trust completely in another species in time of emergency, that was it. What a betrayal when I finally had to leave! Bet she'll never trust another turkey. I can still see her white flag waving good-bye to that place forever.

If you're interested in watching animals, lie down on the ground and put something over your face. It's your face that scares them. If you remain motionless something will soon come along, and whatever it turns out to be it will be worth watching. I even had a weasel jump on my shoulder once and run the length of my body.

With only a handful of grass to screen my face, I once watched five mature grouse feed all around me for more than an hour. When their feeding time was over they all lined up on

a log within five or six feet of me, preened their feathers and talked over the day's happenings. Once they got suddenly suspicious and focused their whole attention on this thing they couldn't identify. I expected they would scatter any minute but I remained perfectly quiet and one by one they lost interest and went about their regular business.

Jumping Mice

On another occasion I found myself in the middle of an upstream migration of jumping mice. I first heard a sound like scattered raindrops in the dry leaves under a willow clump nearby. It wasn't raining, so my curiosity was aroused. It was getting dusk, but by watching carefully I could now see those little mice skipping right over me and landing under the willows. A few feet beyond they would have to cross a small tributary stream and that I must see. I crawled slowly around to where I could watch. In midstream was a small clump of bunch grass. They were jumping to this hummock and from there to the far bank. It was a good enough landing place but a poor launching site. Several of them failed to make it and landed in the water. They didn't seem to mind that at all but swam on across and joined the procession on the other side. Where they were going and why, I haven't the faintest idea. It's rarely that one even sees a jumping mouse to say nothing of a mass movement like that. Just another once-in-a-lifetime adventure with the animals.

Humorous Spying

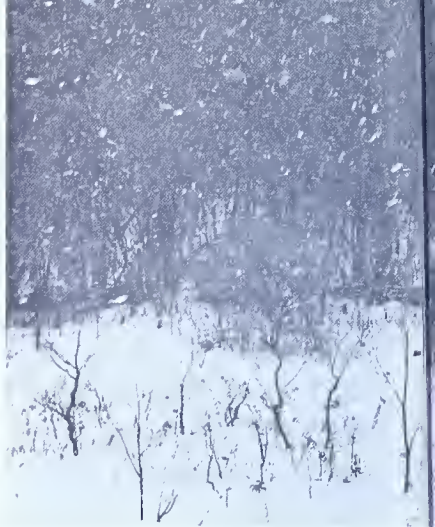
This business of spying on them also has its humorous side. You sometimes catch them in situations that are really funny. I wasn't even looking for animals when this next incident took place, so my face was not covered. I happened to be lying on the ground propped up on one elbow, watching a distant field in the course of my regular work, when this chipmunk came



I HAVE CREPT within three feet of a large bear by keeping a tree between us and taking advantage of a gusty wind.

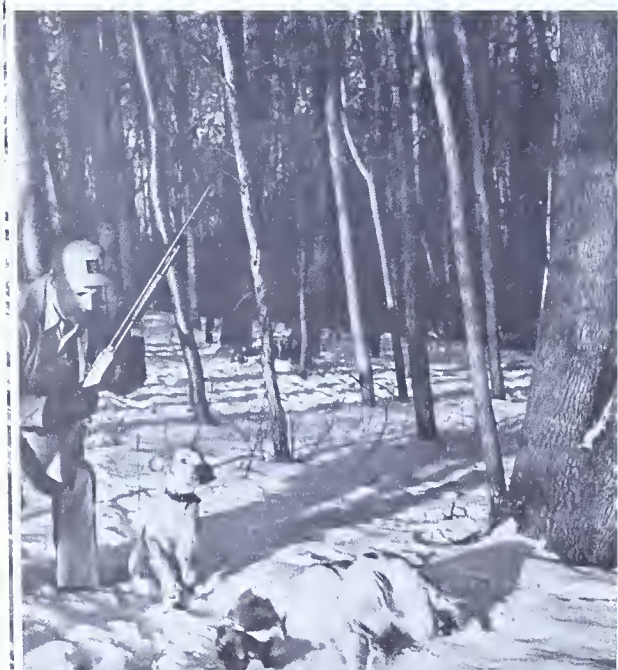
racing through the dry leaves, saw me and jumped behind the trunk of a big tree. Now and then he would peek out to see if I was still there. When I showed no sign of leaving he became almost hysterical. I was interfering with his work and he just couldn't stand being inactive much longer.

I didn't know it then but his hole was right beside my feet. After a bit he got up enough nerve to come rushing part way, only to get panic-stricken and scamper back to the safety of the tree where he sat and cursed me out for fair. Finally he made a bold rush and tried to get into his hole, but his cheek pouches were so full he couldn't make it! Now he really was in a panic. He jerked himself upright and in one quick motion dumped out a good handful of maple seeds and with a terrified screech disappeared down the hole. It was all serious business for him but I must confess that for me it was real comedy. With wild animals you just never can tell what they'll do next—but whatever it is sure will be interesting.



Grouse

FOR MANY Pennsylvanians, the woods are a different way. During the fluffy snow, blue-shadowed landscape and the mercury dedicated grousephiles' feet and fingers are numbed by collars—so long as those coverts and the dogs are it's the grouse that make





e Snow

Ol' Ruff is King of the
rock, waterfowl — these
too, maybe, but in a dif-
ferent season, when soft,
snowflakes, covers the land-
scape, the thermometer's bulb,
in glory. What matter if
the snow cakes their jacket
and shells are haunting the
well. For these hunters,
anytime.

By Thad Bukowski





FIELD NOTES



Fair Exchange

ARMSTRONG COUNTY—Upon returning from his yearly moose hunt in Newfoundland, Deputy Orville Minter told me that it's interesting to see the wide circulation that our **GAME NEWS** has. His outfitter and guide, Richard Fitzpatrick of Millertown, Newfoundland, has been a long-time subscriber to **GAME NEWS**, and he tells Deputy Minter that he reads and enjoys every issue. While preparing for his trip home after a successful moose hunt, Deputy Minter met a native Newfoundlander packing also to come to Pennsylvania. This gentleman told Deputy Minter that he comes to Pennsylvania every year for the last week of small game, bear and then deer season. He stated he wouldn't think of going anywhere else to hunt. District Game Protector D. C. Madl, Kittanning.

Long-tailed Ones, Yet

CLEARFIELD COUNTY — Fish Warden Brown, Student Officer Bernhardt and I were stocking ringnecks in my district. As we released the birds near suitable cover, there was a flurry of motion, with a couple of dozen in the air at one time. Several flew parallel to the road and then crossed it just as an ancient truck came around a bend in the road. The truck screeched to a near stop and then proceeded towards us. As the vehicle lurched and chugged by, its bearded occupant called out, "Hah, I didn't think there was that many grouse around here!" — District Game Protector J. R. Furlong, Ramey.

Retribution

MERCER COUNTY — As Student Officer William Bower and I were picking up a road-killed doe on the northbound lane of Interstate 79 in Mercer County, we both felt that at least she hadn't died in vain, for on the southbound lane lay a big mongrel dog and there was little doubt in our minds that it had been chasing the deer when it was killed. — District Game Protector John Badger.

Final Frustration

LYCOMING COUNTY — Milford English, an old-time turkey hunter of English Center, related the following story to me. He had hunted turkeys most of his life and something always happened to keep him from getting a turkey. Last season, while hunting on State Game Land 75, he worked his turkey call and a big gobbler appeared a short distance away. He figured this was his year. He took careful aim, pulled the trigger—and nothing happened but a loud *click*, as the shell failed to go off. Needless to say the gobbler flew away. — District Game Protector M. Evancho, Jersey Shore.

Hunters' Loss

CHESTER COUNTY—Deer kill on roads was one of the largest in years. Approximately 80 percent were males, most of them with perfect racks, and 20 percent does, most of these being exceptionally large deer. — District Game Protector P. J. Filkosky, Parkesburg.

Things Not What They Seem

SNYDER COUNTY — One morning Deputy Stroup and I came off the river from an early duck hunt. We were met at the landing by an old duck hunter friend who had been dry-docked this year due to his health. He told us that while hunting squirrels one bright and sunny day, he spotted one running up a tree. Raising his gun, he expected to put one squirrel in the pot. But after firing three shots and not bagging the animal he discovered he was shooting at the squirrel's shadow instead of the squirrel! Charlie and I believe our friend Kimmel had better stick to duck hunting where the shadows will not give him trouble. — Land Manager I. L. Dodd, Beavertown.

Now We're All Confused

COLUMBIA COUNTY — Student Officer Trainee James Kazacavage and I were patrolling for late hunters in Roaring Creek Township when we observed a farmer driving and shooting from a tractor. As we approached the man to inform him of the violation, he first asked, "What do you want?" I asked if he had any idea what he had done wrong and if he knew he had violated the Game Laws. He scratched his head, looked up at me and said, "What kind of bird is that?" Being confused, I asked, "Don't you have any idea what you have shot?" The man then stated, "You're darn right I know. You see that bird there in my wagon—he's the one that's been killing all my chickens." I then proceeded to show the farmer that the bird he had shot had webbed feet and was not a predator. "This bird is a Canada goose," I told him. He said, "A what?" Again, I said, "A Canada goose." The man then said in a loud voice, "What the heck is it doing down here anyhow?" — District Game Protector E. F. Sherlinski, Mifflinville.



Where the Guys Are

YORK COUNTY—I recently was told of a pretty young woman overheard in the beauty shop asking to have her hairdo set so it would last for two weeks. She blushinglly said she was going to the mountains to cook for a deer camp for the season. Sorry, fellows, but which camp it was, I wasn't told.—District Game Protector R. L. Yeakel, Red Lion.

Cooperation Gets Results

While on my law enforcement field training assignment with Deputy Game Protector Ron Schmuck in Franklin County, I had the opportunity to see how cooperation and accurate information can bring about the fast apprehension of Game Law violators. A property owner reported illegal shooting of deer and was observant enough to get a description of violators, the auto license number and type of auto. Since the car was from Maryland, DGP Schmuck contacted a Maryland Wildlife Officer. With his help and that of the Maryland State Police, we were able to locate the owner of the auto and bring the violators to justice. These violators are probably still wondering how the long arm of the law reached out and grabbed them so quickly. — Student Officer J. P. Filkosky.

Now, Look Here, Pop

LANCASTER COUNTY—The night before the small game season, a Lancaster County father spent the evening reminding his 12-year-old son of all the training he'd had, including that on gun safety and what not to shoot. They were ready to start at 9 a.m. Within a few minutes, a pheasant flushed. The boy called, "It's a hen." The father shot and the bird fell. They both walked up to the bird. The son said, "See, Dad, I told you it was a hen." When the father called me, he remarked, "I am embarrassed."—District Game Protector W. Woodring, Ephrata.

Tramp, Tramp, Tramp

LUZERNE COUNTY — During bear season I noticed a man dressed in hunting clothes walking up and down the highway. He was not carrying a gun nor wearing a hunting license. When asked why he was not hunting, he stated that he had come with a party of five men to hunt bear,



but when they arrived at State Game Land 57 at Red Rock he found he had left his hunting license attached to his rifle in his gun cabinet in Philadelphia. He stated that since he could not hunt he figured he would get some exercise by walking along the roadside.—District Game Protector E. R. Gdosky, Dallas.



Beats a Florida Vacation!

JUNIATA COUNTY — On opening day of small game season, Deputies Mike Wilson and Mark Betzer, while patrolling near Thompsonstown, met a hunter with sore feet, an empty game bag, and the largest grin seen in these parts in years. It seems the "luckless" hunter came upon one of those "woods dumps" and hit paydirt. When last seen the happy fellow was tramping down the dirt road with his shotgun over his shoulder and his arms bent low with the last four years' issues of —you guessed it—PLAYBOY. It's going to be a long warm winter somewhere!—District Game Protector R. P. Shaffer, Mifflintown.

As Long as They Didn't Squirt 'Em!

FRANKLIN COUNTY—I have seen some strange things while working night patrol, but this past month I saw a really odd one. While parked in Horse Valley I observed a vehicle spotting with a very powerful light. The vehicle seemed to be making a great deal of racket. As it came closer, I was surprised to see a fire truck complete with firemen in raincoats and hats standing on the truck. I guess they were returning from a fire call and thought they would spot on the way home.—District Game Protector J. D. Mort, Chambersburg.

Timberdoodle Time

CUMBERLAND COUNTY — Just prior to the sudden snowstorm on November 12, the hunters of Cumberland County were treated to the best woodcock shooting in this area in many years. The impending storm brought with it literally hundreds of the migrating timberdoodles. Several hunters that my deputies and I checked got their limits in a very small area where they never had encountered this elusive bird before. While one hunter was bending over to retrieve a bird, four more took out from practically under his feet. Needless to say, he was too startled to even bring his shotgun up.—District Game Protector E. F. Utech, Carlisle.

Cooperation Pays

CLARION COUNTY — Recently, several cases of willful violation of the Game Law have been brought to my attention by sportsmen who have a sincere interest in conservation. One involved the killing of 12 ringnecks and 12 rabbits by one individual two weeks before the season, and the other, which occurred during the season, found two men with eight ringneck roosters. Cooperation such as this will no doubt help rectify the lawlessness which has appeared all too often recently.—District Game Protector D. Brown, Knox.

Let's Hope Not!

Deputy Game Protector Al Whitlatch, Townville, has always been faithful at picking up road-killed deer, but this year he has also picked up a 70-lb. beaver hit by a car close to a gas station and a whistling swan which was rising from Oil Creek when a car crossing the bridge hit it. I wonder what he'll pick up next—perhaps an elk? — Land Manager J. C. Hyde, Townville.

Wow!

LACKAWANNA COUNTY — A Scranton resident wounded a Canada goose and pursued it along the shore, throwing stones at it in an unsuccessful attempt to deliver the coup de grace. The goose swam some distance out into the lake and died. Our hunter, seeing that the goose was now dead, promptly removed his clothes and swam out to retrieve his prize. I understand the Labrador Retrievers' Union is going to picket his tailor shop in a protest demonstration.—District Game Protector T. C. Wylie, Moscow.



None Are So Blind . . .

On the opening day of small game season, District Game Protector A. J. Zaycosky and I came upon a group of hunters standing beside their car. As I walked over to them a rabbit passed between us, and as DGP Zaycosky parked the car a second rabbit crossed the road. I then asked the group, "How many?" The answer came back, "Didn't see a thing all morning."—Student Officer R. W. Oliver.

Likes the Area

PIKE COUNTY — Ken Decker of Matamoras told me that a Baltimore oriole which nested in his yard was still in the area at the end of November.—District Game Protector D. S. McPeck, Matamoras.



Fastest Flashlight in the East

HUNTINGDON COUNTY — Recently Deputy Joe Smith, a very observant officer, and two other Deputy Game Protectors were on night patrol. They stopped a car carrying four young men that had been spotting deer at a pretty late hour. While all of the car's occupants were milling around, Deputy Smith noticed a pistol barrel sticking out from beneath someone's coat. He casually stepped over, slid the coat back and shone his flashlight on the pistol, gradually raising it to the face of the man wearing it. Much to his surprise, it was one of the other deputies working with him. Maybe I should make my deputies wear white hats, so Joe can tell the good guys.—District Game Protector G. W. Wendt, Petersburg.

To the Rescue

CRAWFORD COUNTY — While checking waterfowl hunters in the Geneva Marsh, Deputy Price found a green-winged teal that was caught in a muskrat trap. After much splashing and wing flapping, Deputy Price managed to get the trap jaws open to free the duck. It promptly took off for the warmer climates. When asked if the duck said anything to him, Deputy Price answered, "No, but he sure was glad to see me."—District Game Protector John Miller, Meadville.

Tragedy Averted

BLAIR COUNTY—In bear season this year, a 16-year-old boy was lost on Ice Mountain near Tyrone. A massive search started soon after dark. State Police, Fire Police from Tyrone, and CB radio cars and jeeps responded. Deputy Game Protector Grimm's son Lee took the long hike along the east branch of the creek and found the lad curled up, trying to keep warm. Lee led the boy back to safety. This points up the necessity for good training in the outdoors.—District Game Protector P. R. Miller, Bellwood.

Feminine Intuition

PHILADELPHIA COUNTY—Many times I wonder what a fellow tells his wife about paying a fine for a Game Law violation. I know one hunter who, after being fined about two weeks prior, told me that his wife sent another \$25 along with him just in case he got caught again. Guess what? By the end of the day he had paid another \$25 fine. No excuses needed by this fellow when he got home. Only one thing puzzles me—how did she know how much the fine would be this time?—District Game Protector R. G. Clouser, Lansdale.

Ho, Ho, Ho

As they started into the woods, one man asked his companion, "What shall I do if I become lost?" His companion said he should just fire three shots into the air. Later that day, sure enough, the first man became lost, so he fired three shots into the air. Nothing happened. A little while later he again shot three times. Once more, nothing happened, and again he fired three shots. Then he said, "Now what will I do? I'm out of arrows."—P-R Area Leader R. H. Myers, Sweet Valley.



CONSERVATION NEWS



Pymatuning Waterfowl Area Records Best Year So Far

PYMATUNING Waterfowl Area hunters had their best year on record in 1968, according to the annual report compiled by Waterfowl Management Agent Ray M. Sickles.

The population of geese, the goose harvest, the carryover of game and hunter interest were all higher this year than ever before, Sickles said.

Hunters harvested 2580 Canada geese from the Pymatuning blinds this year, compared to 2101 in 1967. An estimated 1050 geese were taken outside the controlled shooting area, for a total goose harvest this year of 3630, compared to 2956 last year.

Even more surprising was the size of this year's duck harvest. Hunters took 2503 ducks from the controlled shooting area and another 3000 outside the area. In 1967, 1910 ducks were harvested on the controlled area.

By species, the take of mallards, black and wood ducks and green-winged teal increased this year, while the harvest of other species dropped.

Sickles said that 3785 hunters this year used the 40 goose blinds constructed and maintained by the Game Commission, up slightly from 1967's 3573. One thousand holders of goose blind reservations were selected from a record 20,538 applicants in an early October drawing. Each reservation holder was permitted to take three guests to his blind.

A total of 2843 gunners utilized the controlled duck shooting areas, compared to 2401 last year. The figures add up to a grand total of 6628 hunters using the Pymatuning controlled shooting areas in 1968, compared to 5974 in 1967.

Sixty-eight percent of the hunters



using goose blinds took a honker this year.

The goose harvest age ratio this year was 1 adult to 1.325 juveniles, an increase over last year's ratio of 1 to 1.22. This indicates that reproduction of geese both at the Pymatuning and in the northern nesting areas in Canada was good in 1968.

The first migrant geese reached the Pymatuning this year on September 11. The goose population at Pymatuning climbed to 10,000 by September 20 and reached a peak of 15,000 on October 12. The supply now is between 8000 and 9000, about 2000 more than normal for this time of year. Most of these birds are expected to winter over, providing more breeding stock for next year than in 1968.

Pennsylvania Near Top in U. S. Big Game Inventory

FINAL statistics compiled on the 1967 big game hunting seasons by the U. S. Fish and Wildlife Service show that Pennsylvania still holds its position as one of the top states in the nation.

Last year hunters harvested more white-tailed deer in the Commonwealth than in any other state in the country except Texas. However, the deer leader produced only two black bears, compared to the 568 reported taken in Pennsylvania, and less than half the number of turkeys harvested in the Keystone State.

Two other states estimated that their turkey bags were slightly larger than Pennsylvania's. One of these, Alabama, produced no black bear and the other, Florida, only 25 bruins. Florida produced 34,000 whitetails, Alabama, 47,842. Hunters reported taking 144,415 deer in Pennsylvania last year.

Of the comparative handful of states with larger bear harvests, none came close to Pennsylvania in the number of deer and turkey bagged.



Photo by Thad Bukowski

FINE 8-POINT DEER made a good trophy for Randall Brown, who bagged it near Pulaski. However, it became even more unusual when he discovered that it was a doe. The "Lady with Antlers" was taken on December 7, 1968, during the regular antlered deer season.

HUNTING NOT FAR from Philadelphia, this group had excellent results early in the recent small game season. Somewhat unusual is the fact that all were shooting double barrel guns—three side-by-sides and one over-under.

PGC Photo by Ralph Cady





FINE 300-LB. BLACK BEAR was taken in Clinton County at Post Hollow Camp by Walter Starliper, RD 6, Chambersburg.

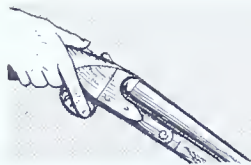


370-LB. BEAR taken in Forest County by Gary Cyrus helped him qualify for Triple Trophy Award. His father admires the trophy.

Deer, Bear Measuring Program Is Planned

The Pennsylvania Game Commission will measure white-tailed deer antlers and black bear skulls taken by hunters in the state in a program starting in March. A trophy deer measuring program has been under way in the Keystone State for several years, but this will be the first time bear skulls will be scored. All hunters who took bears in Pennsylvania last fall are urged to have their taxidermist save the unaltered skull in order that it can be measured. White-tail racks which are split or repaired skulls will not be accepted, nor will antlers with removed or repaired points. All bear skulls may be entered, but only antlers which have not been measured previously will be scored. All entries must have been taken in Pennsylvania, and trophies of both resident and non-resident hunters are eligible.

The program is a public service of the Game Commission, and no charge will be made for measuring. Entry forms will be available at all measuring stations. The measuring sessions will be conducted at Field Division Offices of the Pennsylvania Game Commission. Dates for the measuring program are: March 15 and 16, Reading; March 29 and 30, Avis; April 26 and 27, Huntingdon, Dallas and Franklin; May 3 and 4, Ligonier.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



Father and Son Seminar

FATHER and son participation was the theme for the third annual eastern Winchester Father and Son Seminar, coordinated by Jim Dee, manager of shooting development and chief instructor for Winchester-Western. The program was held September 20-22 at Split Rock Lodge, Lake Harmony, Pennsylvania.

The purpose of the seminar was to better acquaint fathers and sons with the sports of hunting and shooting, and perhaps give them a better understanding and insight of one another.

The program featured trap and skeet shooting and actual pheasant hunting under field conditions at a regulated shooting grounds. Safe gun handling

was stressed at all times, combined with other aspects of conservation.

Discussions on hunting dogs, sporting arms, and many interesting films were highlights of the hunter safety and shooting programs.

Glenn L. Bowers, Executive Director of the Pennsylvania Game Commission, officially opened the seminar and welcomed the group to Pennsylvania.

Other noted speakers included Clare Conley, editor, *Field & Stream*; Ed Migdalski, director, Outdoor Education Center, Yale University; Charles Barnard, editor, *True Magazine*; and representatives from Winchester Repeating Arms Company.

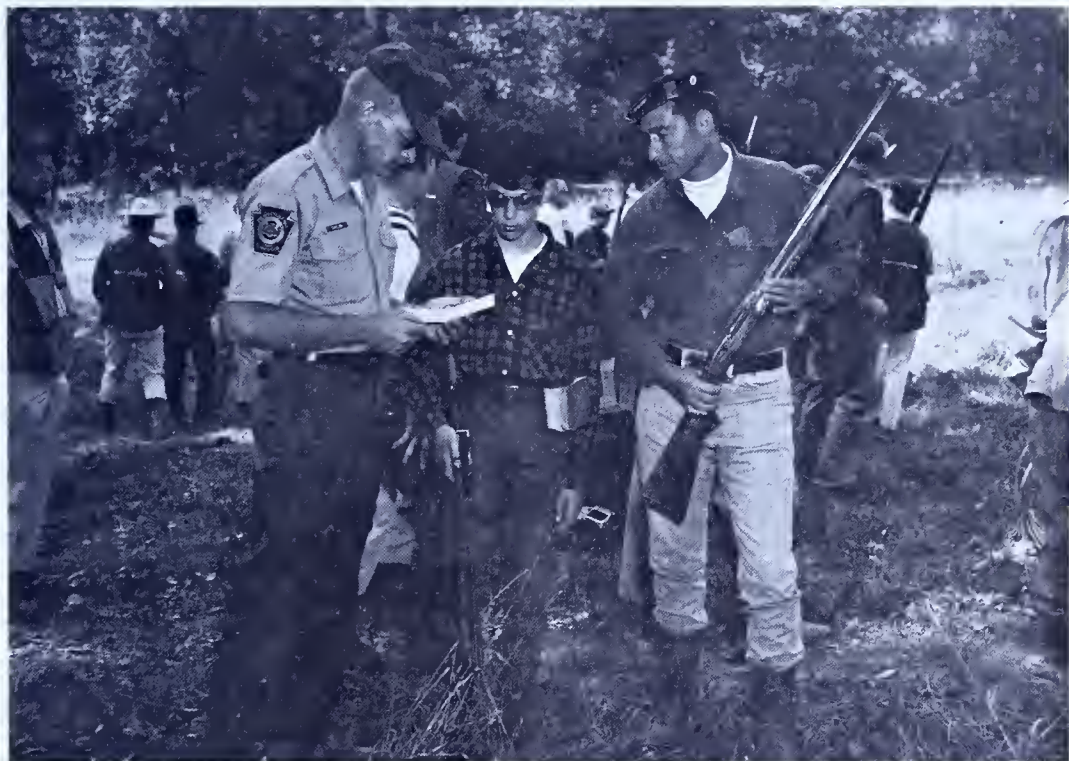
Instruction in safe gun handling was presented by representatives of the Pennsylvania Game Commission and other qualified instructors. Approximately 50 fathers and sons attending the seminar received hunter safety certificates of competency for participating in Pennsylvania's Hunter Safety Program.

Many of the young hunters were shooting firearms for the first time and

safe gun handling was particularly stressed. Teams consisting of two fathers and sons were assigned a shooting instructor who supervised all seminar activities.

In the field shooting of ring-necked pheasants, inexperienced hunters who had never shot at game before were given live ammunition by the instructor only after the dog went on point.

Everyone enjoyed the program.



PARTICIPANTS at the Father-Son Seminar receive instructions from District Game Protector Ernie Taylor.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.



FORMER GAME NEWS COLUMNIST Tom Forbes tests spine of an arrow on mechanism he made and calibrated.

A Salute to Pennsylvania's . . .

MR. ARCHERY

By Keith C. Schuyler

Photos by the Author

IT WAS FIVE YEARS since he had touched a bow. And standing on the sidelines with a camera cocked was a fellow who was trying to wear the archer's shoes. Moments before, the man with the bow had set up his target, walked 20 yards across the lawn, and now was preparing to release his first arrow. At age 73, your muscles don't respond quite as promptly as they did when you were younger. Your eyes work a little harder.

Yet, the man with the bow didn't hesitate. He adjusted his homemade sights, laid one of his homemade arrows on the homemade rest, drew and released. I am sure both of us were hoping that the first shot would be good. It was. As Thomas A. Forbes pulled his arrow from the bullseye, I mentally applauded.

In this writer's opinion, Tom Forbes qualifies as the dean of Pennsylvania archers. This title is not conferred lightly, because there are older archers and probably there are many with more skill, but it is unlikely that anyone is more deserving of this appellation.

When the GAME NEWS was looking for a columnist in 1951 to provide readers with information on the fast-growing sport of archery and bow hunting, Tom Forbes was a natural. He had worked with others to convince the Pennsylvania legislature that a special season for hunting big game with the bow was both logical and needed. He and Clayton B. Shenk, executive secretary of the State Archery Association, toiled side by side for enactment of the first bill signed by

then Governor John S. Fine. The first season in 1951 was for antlered deer only, but it brought out 5542 archers who managed to down 32 bucks. At the time, this was close to the all-time total of deer killed by bow hunters in previous gunning seasons.

As interest continued in archery, much of it promoted through this column which was written until 1962 by Tom Forbes under the title "Arrow Points," a need was seen for a more liberal season. Again, the team of Forbes and Shenk, along with others, went to work, and Governor George M. Leader signed a bill in 1955 providing that archers could shoot any deer during the designated seasons. First of the any-deer seasons was held in 1957.

Initial Interest

Tom's initial interest in archery began in 1948 when he was seeking some form of recreation that he could enjoy in companionship with his daughter, now Mrs. N. A. Thorne. His daughter went on to become Junior Girls' Pennsylvania Champion and a gold medal winner. Some of her scores are still in the record book. Tom continued to have an active interest in target shooting, but as with so many of us, his separate duties precluded spending the time necessary to enter into that exclusive company of champions.

Although his primary interest was in target archery, Tom entered all phases of shooting so that he could be informed for the purpose of passing along information to the small army of archers building across the state. When field courses were built on the club grounds of the Carlisle Archers and the Mechanicsburg Sportsmen's Club, the editor of "Arrow Points" did considerable shooting.

In the early years of the archery deer season, Tom hunted with several friends in Sullivan, Potter and Lycoming Counties. As he pointed out in our interview, "Those were the years when there were fewer than 10,000

archers who hunted during the archers' deer season. Opposition from gun hunters has decreased materially over the years, and there is genuine friendship and mutual respect among the two groups." I asked about his results in hunting. "I have shot small game with the bow and missed four bucks during the early years. I have always shot with a sight and prefer target archery to field archery."

Relative to general hunting, Tom said, "I prefer upland game birds as a target for my 20-gauge, and my favorite is the ruffed grouse. However the old legs are playing out and after a two-hour hunt I call it a day on grouse."

Through devious means I have gained personal information about some of the old grouse hunts when Tom's legs were on a par with those of his companions. I have been informed that a hunt with Tom was quite akin to a military expedition. Everybody had a particular area to cover, and they were expected to

ALTHOUGH LONG RETIRED, Forbes keeps busy turning out Pennsylvania Outdoor Writers Association and Archery Association bulletins.



cover it properly and on time.

This comes as no surprise, since in professional life Forbes was an engineer. He was educated in the Saltsburg public schools, the Kiskimuntus Preparatory School, Saltsburg, and Lafayette College, from which he was graduated with a degree in civil engineering with the Class of 1919. His actual graduation came in 1920, as he enlisted in the army and served with the American Expeditionary Force in France during World War I with the Corps of Engineers. He went back to college after returning from France in July of 1919. He served in World War II until retired for disability incurred in the line of duty. He was attached as liaison officer to a wing of the Army Air Corps on stateside duty with anti-aircraft artillery.

Forbes began his professional life at a railroad location in Tennessee and worked on construction of Wilson Dam at Muscle Shoals, Alabama, first of the dams of the Tennessee Valley Authority. He became construction engineer with Black, McKenney and Stewart, consulting engineers, in

IT WAS FIVE YEARS since Tom had touched a bow, but from 20 yards his first shot was in the middle—not bad for a youngster of 73 years!



Washington, D. C., and did river and harbor work on the Magdalena River in Colombia, South America. He became chairman of the Technical Committee on the reconnaissance surveys for the Inter-American Highway from Brownsville, Texas, through Mexico and Central America to the Panama Canal Zone. During this period he was employed by the U. S. State Department. He also served the government on public works programs in construction of public buildings. He served for a time with the Public Utility Commission in the Commonwealth of Pennsylvania. He retired from active professional work in 1949.

Charter POWA Member

His activities gave him membership in the Phi Gamma Delta College Fraternity, and he was a member of the American Society of Civil Engineers and the Registered Professional Engineers of Pennsylvania. He is a member of the Masonic Order of Knights Templar and the Camp Hill Presbyterian Church. His outdoor activities brought him honorary membership in the Pennsylvania State Archery Association, and he is a member of the Mechanicsburg Sportsmen's Club. He is a charter member of the Pennsylvania Outdoor Writers Association.

As an author, Forbes wrote the *Guide to Better Archery* in 1955. A later edition, *New Guide to Better Archery*, was published in 1960 by Stackpole Publishing Company, Harrisburg. The book has sold more than 10,000 copies.

In addition to his column in the *GAME NEWS*, Mr. Forbes wrote many feature articles. His work has appeared in such magazines as *North Carolina Wildlife*, *Texas Game and Fish*, *California Wildlife*, *Archery World*, *The Archer's Magazine*, etc. He also authored a section on target archery for the Pennsylvania Game Commission's manual.

He has for many years been editor of the "Newsletter," official house or-

gan for the Pennsylvania State Archery Association. For several years he has edited the Pennsylvania Outdoor Writers bulletin, "Pow-Wow."

As one of the early enthusiasts in archery, Tom started out with a plain, flat lemonwood bow that he bought for eleven dollars. Although the old bow would not keep up with the more modern staves for distance, he was able to shoot just as high a score on the target range as he could with the newer recurved, laminated and much costlier bows.

The Old Days

After taking pictures of Tom in the yard of his attractive home in Camp Hill, we made the tour of Tom's office and his workshop in the basement. It gave us a chance to talk over some of the old days when archery, despite its thousands of years of history, was more or less in its infancy here in America.

Except for the actual bows, Tom and his daughter made the rest of their equipment until the aluminum arrow was perfected. His engineering background is quite evident in the still usable equipment that is primarily a product of his own hand. His spinning machine is of his own design and personal calibration. At one time all of his arrows were made in his own workshop, where shafts were spined, fletched and crested. Strings also were homemade and shoemaker's flax provided the material.

I asked what Tom thought was the greatest improvement in archery tackle. He replied, "I believe the greatest improvement in archery tackle has been in the arrows. They are perfection and have resulted, I believe, in

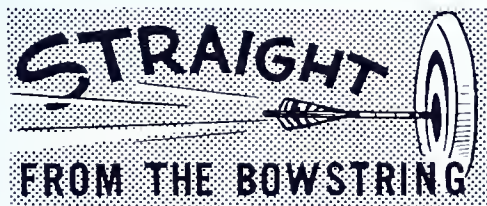


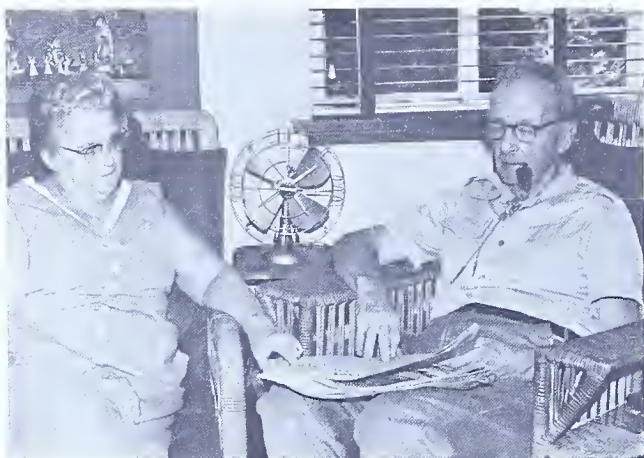
TOM FORBES, of Camp Hill, Keith Schuyler's nominee for Mr. Archery of Pennsylvania.

the increasing scores recorded by the younger archers of the present day."

Tom's first bow sight consisted simply of a strip of adhesive tape placed on the belly of the bow into which a straight pin was inserted for a sight. He found that this basic sight was just as accurate as any of the manufactured articles. He simply sighted in the bow at the standard yardages and marked these positions with ink on the tape. Humidity would require slight adjustments, but this was easily corrected. Even his arm guards and finger tabs were made from scraps of leather obtained from a local upholsterer. His arm guard was laminated by gluing a backing of cardboard to the leather. Quivers were made from mailing tubes covered with the same type of leather. Tackle boxes were made to accommodate the various items of equipment used on the target range.

One of Forbes' greatest satisfactions





TOM AND HIS WIFE, GRACE, relax in the living room of their attractive home at 240 North 27th Street, Camp Hill.

has been the experience he has had teaching numerous youngsters how to shoot the bow. For years he kept a target in his yard for this purpose. Both he and his daughter taught backyard bowmanship.

Tom is quite safety minded, and in the early years he gave exhibitions at various service clubs mainly for the purpose of demonstrating that the bow is an accurate and deadly arm. He still believes that no youngster should be given a bow unless he is required to shoot it under adult supervision. Archery will probably never die out in the Forbes family, as his daughter now has two children of her own who are most likely to get expert instruction.

Mr. Archery shares this writer's feeling that a strong state organization such as the Pennsylvania State Archery Association is required to promote, protect and advance the fortunes of archers in each state. He believes that the state association has to be free to deal with the problems that arise within the state. It cannot be subject

to control by a national organization unfamiliar with problems peculiar to the state and its archers. Tom pointed out that at the time the National Field Archery Association was formed, only bare-bow style of shooting was advocated. Gradually the association came around to adopting free style and it now accepts both styles of archers.

The Camp Hill dean still feels that it is the man behind the bow who makes the score, regardless of the method he uses to propel an arrow to the mark.

Mathematical Mind

Thomas A. Forbes has hit the mark on many other occasions than on the target line. He has been active in numerous conservation projects through the years, and those who opposed him knew they were in a battle before it was all over. Although his mathematical mind will not permit him to budge from a course in which he believes, he is basically a man who will lend his energies only to a cause that he feels just. Since I have on occasion been on the opposite side in a difference of opinions, I am quite aware of the need to have both feet firmly on the ground in challenging any of his ideas.

Mrs. Forbes, the former Grace Weamer of Saltsburg, has managed to engineer her half of domestic arrangements at the Forbes household for the past 47 years that this fine couple have been married. It was from her that I learned that the "A" in his name stands for "Austin," the name he answers for dinner. To the rest of us, he has always been "Tom."

My personal years of association with this gentleman from Camp Hill have convinced me that it has been and is good to have him on the side of archery in Pennsylvania.

No Wonder They're Early Birds!

A young robin consumes approximately 14 feet of worms daily after it emerges from the egg.

Something About



KNIVES

By Les Rountree

I'M SURE any boy or adult male who is remotely interested in the outdoors has spent some envious minutes watching a professional butcher sharpen his knife and then proceed to slice off a round of steak. Perhaps I'm a bit of a kook, but I always thought that the skillful use of a sharp knife was an art form of the highest degree. The era of cellophane-packaged meats has made it somewhat more difficult to watch the butcher at his labors, but there are still enough of the old-fashioned meat markets around to make the sport of butcher watching available to anyone who wants to.

The *kritch-kratch*, *kritch-kratch* of the knife stroking the sharpening iron is a sound that cannot be duplicated by anything else. The best of the rib-roast Rembrandts do this with a magnificent flourish as they ask, "About how many pounds?" and then lay the blade to the loin with a movement that would make Toscanini look like a clod.

Another group that fills me with wonder are the fish-filleting masters that frequently serve as guides in the walleye country of Canada. A four-pound walleyed pike is reduced to two boneless, skinless fillets with four

passes of a thin-bladed fish knife. They make it look so easy that you keep asking yourself why you can't do it. Of course, practice is a great part of the answer and, frankly, most of us will never be the equal of the man who has spent the greater part of his life doing a specialized chore. There are a few things we can do to make us a better bladesman. One of them is to have the right knife for the job, or at least have the right one for the job that we do most often with a knife.



THIS HEAVY POCKETKNIFE has a good blade shape for general use around the camp or as a hunting knife.

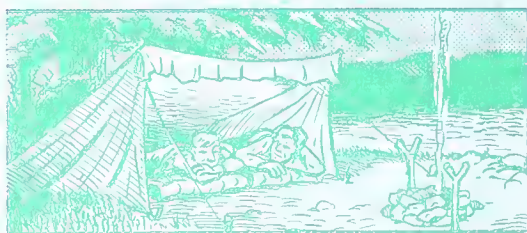
The camper should consider a knife an indispensable part of his gear, and most of them do. The big handicap is that the knife carried along on the family trip is usually one that the good wife picked up out of the kitchen drawer about three minutes before you left the house. Unfortunately, this knife is always dull and has an edge so badly knicked up from opening jar tops, cutting linoleum and other housewifely chores that it is practically useless for normal slicing or carving operations. Sorry about that, Mom, but you know it's true. Of course, the man of the house is usually the one responsible for keeping the kitchen cutlery well honed so he deserves part of the blame. Some blame also lies with manufacturers of knives. The trend for the past 20 years has been to make blades out of such a stiffly tempered piece of

stainless that, after the factory edge has worn off, it is almost an impossibility to sharpen them. Knives of this persuasion can be made cheaply and quickly and the maker hopes that, when you tire of hacking your tomatoes to pieces instead of slicing them, you'll race out and buy a new one. Most of us do.

Good knives cost money, quite a bit of it for such a small item, but a really good one is a lifetime investment if properly cared for. Some very nice three-piece household sets on the market sell for around \$40. These sets usually consist of a paring knife, a 12-inch butcher/carving knife and a bread slicer. They are a good investment and can be passed to next of kin (if packaged foodstuffs don't take over altogether). The good blades take and hold an edge for a long time and re-sharpening is not difficult.

Pocketknife Popular

For outdoor and general camping use, the knife that leads all others in sales is the folding pocket knife. From the time most boys are about twelve—that is, for those who have outdoor tendencies—a jackknife becomes an important item. Here I go again, trying to upset a tradition, but I have never believed that the rather round pointed blade of the ordinary "Boy Scout" type knife was worth a hoot for anything except mumbly-peg and not too good even for that. Having a bottle opener and screwdriver and perhaps a corkscrew on a pocketknife always struck me as being a little silly. There are other tools for these purposes. I can never remember needing a corkscrew while on any kind of outdoor adventure. The multi-bladed



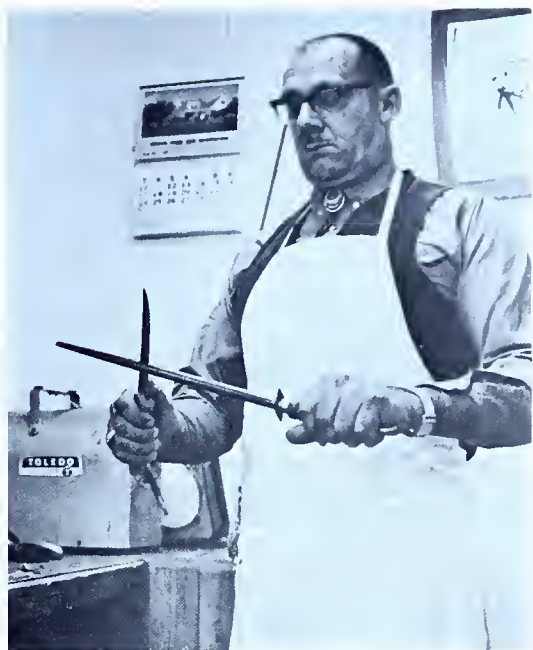
"Swiss Army" model is a great auxiliary tool but really can't be called a pocketknife. Besides, it's too heavy.

I prefer a pocketknife with one or two blades. The one-blader I like is the narrow, pointed design with the long, shallow, concave back side. I want the same type on a two-blader. I'm not too particular what the other blade is shaped like, since this will be used for rough work such as stripping electric wires or cutting cardboard. Some manufacturers call this narrow design a saber blade, others call it a fish knife style. Whatever you call it, the design seems to work best for my use. It is great for opening up fish up to 20 inches long and will even fillet small ones. The pointed blade works perfectly for field dressing small game animals and birds and it can do a passable job of carving a roast or a chicken if the occasion demands it. In the longer models (mine is five inches folded), the handle offers a bit more grip than does the short fat pocket model. This is a safety advantage.

For the executive type who uses his knife for nothing more rugged than an impromptu manicuring session, the little silver- or pearl-handled miniatures are fine. Even in these smaller sizes, the long slender blade seems to be the most useful. From an esthetic point of view, it makes a nicer looking knife as well.

Hunting Knife

Every outdoorsman who also hunts has at least one of what he refers to as a hunting knife. Ideas concerning the matter of just what a hunting knife is are almost limitless. In the deer towns of Pennsylvania, a survey of what hunters carry to perform the necessary field surgery would turn up everything from a 14-inch Bowie knife to one of our previously mentioned Boy Scout models. Any and all of them can be used to do the job, but the right size and shape can make the job much easier. We must consider,



KEN BUSHEY illustrates the proper method of stroking a meat knife on a steel sharpener.

however, that different hunters have different ideas about what constitutes a hunting knife. All that's really necessary is a sharp blade that will easily open up the abdominal cavity of a deer. Any rather thin blade of around 5 inches will do this nicely. A great deal of heavy cutting is not necessary to properly field dress a deer. Some hunters insist on cutting through the pelvic bone to open up the hams and, of course, the big heavy bladed monsters are fine for this. It's cleaner and much neater to leave this bone intact and keep those hams protected until butchering time. Cut a ring around the anus with that thin knife and pull the whole affair through the opening. If you do this, the only other tough cut is to hack off the windpipe.

For skinning large game, a wide-bladed knife is best. It will ride along the fleshy side and not be so prone to jump out and cut through the skin. The cutting edge of the ideal skinning knife should have a bit of a curve. This makes it easier to "rock" the blade as you reach those rather stubborn places. This knife is a special



"BABY SIZE" belt knife, top, and the author's favorite pocketknife, bottom. Both dress deer easily.



THE SOFT STEEL in the blades of utility knives such as this makes them easy to sharpen. They cost little.

purpose tool and most hunters really won't need it unless they like to go the complete route and do the entire processing job themselves. In that case, they ought to get the whole business — butcher knife, bone saw, gambrels, etc. But that's a whole subject in itself and something we won't get into right now. Maybe next fall.

Another special purpose knife that the camper will frequently find use for is the fillet knife. Many camping trips include fishing on the itinerary and nothing makes fish dressing easier than having the right blade. The perfect knife should be thin and flexible and have a blade at least an inch longer than the depth of the fish to be filleted. With small fish, especially trout, the only cleaning necessary is one slit up the belly, a zip down the backbone blood line with the thumbnail, and that's it. With any fish over 12 inches long, filleting and skinning is better. The skin on most fish adds nothing to the flavor and frequently detracts from it. Briefly, filleting takes four cuts. Make one on each side of the body just behind the gills, taking care not to cut the backbone. Start the body cut just ahead of the tail and slice forward, allowing the blade to ride along the side of the backbone toward the gill cut. As you reach the front half of the fish, make the cut more shallow to avoid cutting off the

rib bones. Turn the fish over and repeat the same operation on the other side. For skinning, lay each fillet skin side down on a wooden cutting board. Leaving a tiny bit of flesh as a finger hold, cut through the meat until you just touch the skin. Hold the knife blade at a 45 degree angle and pull the skin toward you. The skin should peel off in one piece. It does take practice and the right knife.

What really makes a good knife for this or that purpose is usually good material for starting a "hot stove" argument. All the old salts in the outdoor game have their favorites and you can bet that they'll pay little attention to what someone else prefers. Certain knives gain local reputations that are hard to put down and I'm not about to try. For example, Ted Trueblood once wrote about an odd-shaped blade that professional government hunters use in New Zealand. It seems that their favorite blade is a long, curved instrument that looks more like a grass sickle than a knife. As I recall, Ted didn't think much of the knife until he saw the locals in action with one of them. They could dress, skin and quarter a deer with one of those blamed things in about 15 minutes. Try that with your favorite deer sticker!

No matter what your preference is, I'm quite sure that all knife fanciers



THIS THIN-BLADED pocketknife has been in use for over 50 years. The style is a favorite of Rountree's.



ONE OF THE EXTREMES occasionally seen in Penn's Woods. Much too large for practical hunting use.

agree that a sharp knife is better than a dull one. A sharp knife is a tool to be used with caution but a dull knife can be far more dangerous. It's sort of like the old saying about unloaded guns being the most dangerous. Many more kitchen, camping and hunting accidents involve dull knives than sharp ones. The dull knife requires much more pressure to cut anything and a slip can have nasty results. The user of the blade that was last employed as a linoleum cutter invariably winds up hacking and chopping instead of making a neat slice.

I wish it were possible to tell in print or show in pictures just how to sharpen a knife. While I hate to admit it, there seems to be something mystical about putting a good edge on a blade of any kind. Either you have the touch to do it, or you don't. I have read numerous descriptions concerning the angle of the blade against the stone and all that, and have watched several experts at work, but I have never been able to satisfy myself with the edges that I get. The little carborundum bars that are available in all hardware stores work pretty well for the small pocket knives if the steel is not too hard and you have about a half hour or more to spend on the job. An electric grinder is taboo for any good knife. You could have the lightest touch in the world but the odds

are that you'll burn the blade. Even if you do manage to put an edge on it with a high-speed wheel, it won't last because you've lost the temper in the steel.

By carefully stroking the blade at a shallow angle (somewhere between 10 and 15 degrees), a good edge can be put on most any knife with the small stones by using the coarse side first and then the fine-grained side. They're easy to carry and every outdoorsman should have one in his kit. Unfortunately, the camper or hunter cannot carry one of the old-fashioned sandstone grinding wheels along with him. This is the ultimate blade sharpening device and if you have someplace to put one, by all means get it. The best place to find one is at a country auction. I've been told that some company out in the Midwest still makes them, but I haven't been able to track it down. The kind of stone I'm referring to is the floor model, with the foot pedal attached to the wheel, complete with seat. I'll admit it sounds like a lot of machinery just to sharpen a knife, but I'll bet that your wife will sing your praises after a month of really sharp knives in the kitchen.

Because you can regulate the speed of the wheel and actually watch the metal being smoothed, it's the easiest tool in the world for any kind of

sharpening. The best angle for holding the blade is quickly apparent because you're really in control, and some slight adjustment can instantly be made. If you think that the edge is a little rough or "wiry," final stroking can be made on a piece of leather just like great-granddad used to do with his razor strop. The combination of sandwheel and leather can make even a stumblebum knife sharpener look good.

A bit farther back we complained that the current crop of knife makers is turning out blades that are much too hard. It's true, but in all fairness, they probably have a good reason. The factory edge that most of them put on a knife, while not great, will cut. In fact, it will cut a long time if not abused. Soft steel, while easy to sharpen, will not hold an edge. Since a lot of buyers may never sharpen their knives, the high carbon steel is usually the wisest choice for the mass producer.

About the only way to sharpen the high carbon stainless finished knife is to lock it up in a vise and gently taper the edge with a finely serrated file. You won't burn the metal this way and you can end up with a pretty fair

edge. Final smoothing can then be done with a carborundum stone.

The ideal steel for a knife should be hard enough to hold an edge for several days' use but not so hard that it requires a file for sharpening. A tough proposition. There are knife manufacturers who offer blades that meet these requirements. You may buy and discard two or three before you find that "just right" knife that suits you. When you do get a good one, guard it jealously. Always make sure your cutting board is wood and keep the blade sharp.

My non-outdoor oriented friends consider my interest in knives to be rooted in some psychological disorder. I hope this is not so and that I never have the occasion to impale anything more dangerous than a rare rolled roast. My guess is that even the most fragile young bride finds some sort of satisfaction in artfully slicing carrots or tomatoes with a nicely shaped, sharp knife. The odds are quite good that she'll never dress out a buck or skin an elk, but she just might find herself out on a camping trip someday. She'll deserve a good sharp knife. We knife lovers might turn out to be a rather large group.

Book Review . . .

The World of the Grizzly Bear

The grizzly bear is, to many people, the most interesting animal in North America. His size, strength and courage make him unique in our animal kingdom, and these qualities, combined with countless legends dating to frontier days and generally stressing his ferocity, have made everyone aware of the grizzly's existence. That existence is now tenuous, with less than a thousand of these fine animals left in our Rocky Mountain States, according to this latest volume in the series of Living World Books. Here, the author examines the full life cycle of the grizzly, showing him in all seasons of the year, under all natural conditions. Highly informative in any sense, the details which flesh out this book (grizzlies dig their own winter dens rather than use natural shelters; they cache surplus meat for later meals; they may have a six-inch layer of fat before their winter sleep) make fascinating reading. (*The World of the Grizzly*, by W. J. Schoonmaker, J. B. Lippincott, East Washington Square, Philadelphia 19105, 1968. 190 pp., \$5.95.)



GONE FOR THE DAY

By NED SMITH

Progress--so-called--brings many problems for wildlife, but we still have much to be thankful for, and February brings horned larks, red squirrels, juncos--and a hint of spring . . .

IN THIS AGE of pesticides, bulldozers, atomic fallout and urban sprawl, we who love wildlife and the out-of-doors live in an almost constant state of despair. In the space of a few years we have witnessed the decimation of species after species of wildlife. Still worse, we have watched the destruction of habitat vital to countless other species, while do-nothing lawmakers and a disinterested public look the other way. There are times when we wonder if there's any future at all for the natural creations we treasure.

Fortunately, there is a brighter side. Occasionally we are shown that not everything is going downhill, that some things at least are as good as, or better than, in the "good old days."

Yesterday was such a day. My feeder was swarming with evening grosbeaks — surely one of the most handsome birds ever to cross the Canadian border. Even in a "grosbeak year" when they are more common than house sparrows, one never tires of studying their smooth blending of black, olive, and yellow plumage, the clean white of their wing patches, and the stout ivory bills that are tinged with green as spring draws near. It occurred to me that in the good old days they were practically unknown

down our way, and the first one I laid eyes on was in the early 1940s.

In the background a sullen mockingbird guarded his special tray of raisins, reminding me that here was an immigrant from the Southland who also was a rarity in the good old days. Today they are a common sight, nesting in our shrubbery and singing from our television antennas. And in warm weather other southern birds now invade our state. Cattle egrets invade southeastern Pennsylvania in droves, and even glossy ibises are observed occasionally. And how about those raucous ring-necked pheasants that provide so much sport in November cornfields? Where were they in the good old days? I well remember my first years of hunting, and the paralysis that gripped my youthful body at the rare and wonderful sight of a ringneck rooster thrashing into the air. Today we blithely pop off ringnecks as a matter of course, but in those days flushing more than two or three per season was rare good fortune.

I stocked the feeder amid the sharp complaints of grosbeaks, and then left, heading for Broad Mountain and a tramp in the snow. Where the sighting of a single deer would have made headlines in the local newspapers a half century ago, I spotted thirty-two

whitetails in a few hours. That same afternoon I also cut the fresh tracks of a small flock of wild turkeys. It was not too many years ago that the South Mountains and a few other scattered places were the only areas with huntable populations of these great game birds. Today they are bagged by the thousands in prime turkey range that covers half the state and in many other locally favorable spots.

True, the forces that threaten our wildlife resources are growing stronger day by day, and the fight to retain a part of natural America for future generations becomes increasingly difficult. But before we throw up our hands in resignation let's look around and see what is left to save. Perhaps the simple act of counting our bless-

ings will give us the inspiration and determination to make ourselves heard above the destroyers.

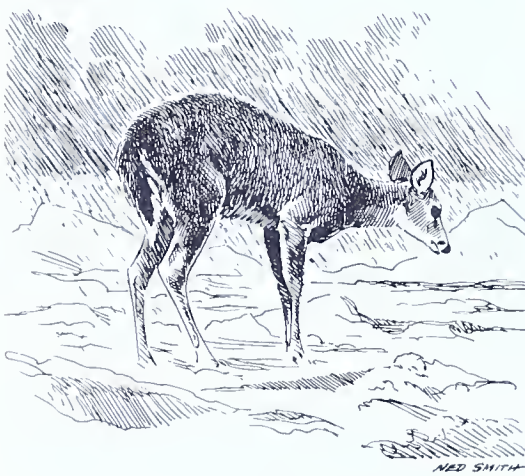
across the river, and up to New Buffalo we finally located her again, much closer this time. She was the picture of dejection — head hanging, ears drooping listlessly. She paid little attention to the faraway shore or islands, and moved only enough to keep from slipping into the water each time her icy raft tilted. The distance was great and the air a dismal mixture of drizzle and fog, but I took her picture through the big telephoto.

When she again disappeared between the islands we drove down to the bridge, hoping for a picture at closer range. But we never saw her again. It seems unlikely that she passed before we got there. More likely she was dumped off her perch at the Inglenook Falls and made it to dry footing.

February 3—A handsome male horned lark was singing his feeble song on the lawn behind the house, while another pair fed on a neighbor's extensive lawn. Few birds in our area are so fond of the open spaces. Rarely do they perch anywhere but on the ground, although they do appreciate a clod, a mound, or other slight elevation from which to sing. Early as it seems, it won't be long until the males will be staking out their claims—fighting off other males and making their spectacular courtship flights.

February 6—Red squirrels are natural-born clowns, and when they don't know they are being observed they are absolutely hilarious. This afternoon I watched the antics of three of them from a blind at the feeder. Where they came from, I don't know, but they exploded onto the scene like a troupe of vaudeville acrobats. It was impossible to be sure who was chasing whom as they streaked over fallen logs, up and down trees, and over the snow in blurry, intertwining circles. Occasionally they tangled, squealing and churring in real or simulated anger, then broke apart, only to resume the dizzy chase.

ADRIFT
ON THE ICE



ings will give us the inspiration and determination to make ourselves heard above the destroyers.

February 1—The last week in January was abnormally warm and rainy, and today the ice moved out of the river for the second time this winter. A deer, probably frightened from an island by the breakup, tried to get to shore and was carried downstream on a drifting floe. We got there in time to see her, a dark speck slowly moving out of sight beyond a distant island.

Driving down to Clark's Ferry,

The fracas stopped as quickly as it started, and before I knew it one was sitting beneath the feeder about fifteen feet away, calmly nibbling the germ out of a grain of corn. Another bounced to the side of a tree supporting the feeder and insulted the first from a safe distance. I focused the camera and at the flash of the strobe light they both simply disappeared.

But they were soon back, both settling down to some serious eating. A tufted titmouse cocked a black eye this way and that, and joined the party. Although the snow was littered with grains of corn de-germed and discarded by the squirrels, none met with his approval. He hopped all over the place, several times almost on a furry tail without eliciting so much as a glance from the squirrels. At length he found a grain that suited him and carried it to a nearby hickory sapling, where he whacked it into bite-size bits.

February 7—Even though I couldn't see a thing, the heavy splashing and the rattle of wings against water told me a duck was bathing at the foot of the steep river bank just out of sight. I crouched low and was easing up that way when a common merganser hen drifted into view. She was feeding in the swift glide near shore, and periodically flipped bottoms-up and disappeared beneath the surface. Not more than twenty feet from where I waited motionless she bobbed to the surface, a five- or six-inch bullhead in her slender bill. Holding it by the tail she shook it, but it slipped from her grasp and apparently headed for the bottom, for she had to dive and recapture it. Again she commenced shaking it and slapping it against the water. Then she spied me, and paddled farther out into the river to tenderize her prey.

The splashing was still audible upstream, so I circled back through the woods and emerged at the source of the sound. I could see the water fly-

ing, but no duck. Ever so slowly I raised my head, but before the bathing bird came into sight another—a merganser drake—left the shelter of the shoreline and swam out into the current. He was a beautiful bird, gleaming white in the sun with an iridescent green head and crimson bill, long and low in the water. He had seen me and his suspicions were transferred to the hen who had been bathing. She, too, swam out from shore, followed by another hen.



Suddenly the drake had seen enough. He leaped to his feet and ran across the water, wings flailing and neck outstretched. Both hens followed suit. He and the one hen were soon airborne and heading for mid-river, but the hen who had been bathing couldn't get off the water. She raced downstream with wings revved up, but after a twenty-yard run she sank to the water heavily. She turned and sprinted across the current, but that was no better. Apparently her plumage was so waterlogged from splashing and bathing that she couldn't fly, for she eventually swam down the river and out of sight.



NED SMITH

February 11 — There was a perfect tracking snow today, the product of a day and a night of above-freezing temperatures. Below the orchard a horned lark left a track like a miniature train, twin lines that ran, straight as a die, from weed to weed. The alternating footprints were those of a runner, rather than a hopper. A junco, on the other hand, hopping along a snow-covered log at the sawmill, left paired meandering footprints.

On the other hillside a red fox left a dotted trail through the corn stubs. Many folks think a fox is a fox. But red and gray foxes are entirely different animals, with different habits, different pelage, different skulls, and different temperaments. Even their tracks are dissimilar. The gray leaves footprints that are small and round, like a large cat's except that the claws show. The red's footprints are larger and proportionately longer, much like a small dog's except for the somewhat bar-shaped heel pad. The thick fur that nearly obscures the pads in winter is seldom evident in the footprints.

Tracks were everywhere. The paired prints of white-footed mice, trailed by imprints of the slender tail, crisscrossed the path across the gully, and rabbit tracks were concentrated in bare spots beneath the wild raspberries where they had gathered and romped in the moonlight. Several lines of fresh ringneck tracks leading toward the fence corner warned of impending activity, and sure enough, as I waded into the crackling weeds four hens burst into the air on stiff, swishing pinions.

February 17—Trudging along a snowy woods road this evening I was halted by a strange sound that seemed to originate down along Powell's Creek. At first I mistook it for the call of a wild turkey hen, but its cadence was too steady. I turned toward the sound and it immediately changed character, becoming more of a metallic ring, like an iron pipe when struck with a ham-

mer. Then it dawned on me. It was that midget bird of the night, the saw-whet owl. This visitor from the North is much smaller than the screech owl and has no ear tufts. It was named for the notes I had heard, which suggest the sound made by a man filing a saw.

February 22 — Wintry weather holds no fears for a certain kingfisher in our area. Twice within the past few weeks we've seen her perched on the wires that cross a little stream above Killinger, watching for minnows in the snow-rimmed waters below. I don't know how long she's been hanging out in these parts, but kingfishers usually



go farther south to spend the winter. Maybe she knows spring is on the way and wants to be the first of her breed to claim a stretch of fishing water.

February 25—The kingfisher isn't the only bird to smell spring in the air—though it is months away. Two turkey vultures, the first of the season to venture north of the mountains, were circling lazily above Beech Top this afternoon. There will soon be more of them to begin the annual cleanup of lifeless birds and animals that failed to survive the winter. They are unattractive birds with repulsive feeding habits, but without them we could not possibly start the spring all fresh and clean and sanitary.



CHARLEY SHULER TOOK TIME before deer season opened to zero his rifle 3 inches high at 100 yards (dot reticle fits inside homemade target), brought home the venison. Not everyone was so well prepared.

Now That It's Over

By Don Lewis

Photos by Helen Lewis

"**G**ET THIS DARN scope contraption off my rifle and put my open sight back on," was the irritable remark an elderly man made as he came through my shop door.

"Are you kidding, my friend? This is perhaps the finest variable power scope . . ." I began to say.

"You heard right. This piece of glassware caused me to lose the biggest rack I've ever seen in over thirty years of hunting. If you hadn't talked me into putting on a scope, I'd have a trophy head to mount. I could kick myself for ever giving up my old buck-horn sight."

"I'll do whatever you wish, but I can't understand how a fine scope could cause you such anguish. How about starting at the beginning and giving me the whole story."

"Well, you know after you mounted the scope, I tried to buy a set of old scope covers that you had, but you advised against using covers and especially that type. On the way home, I stopped at a sports store and bought a similar pair that had clear plastic eyepieces. The shop owner told me you were a little off the beam since he had sold nearly four dozen sets and they must be good. He fitted them on my scope and told me they'd never come off."

"What's this got to do with the reason you missed the deer?" I asked.

"I'm gettin' there," he said. "When I left the house this morning, it was raining cats and dogs, and I was sure glad I hadn't listened to your advice. With the covers on my scope, I didn't have a worry in the world. About ten-

thirty, I spied this big old buck trotting down a power line. I almost got the fever when I saw the size of his rack, but I steadied myself down and raised the rifle to my shoulder. I nearly collapsed when I saw that the scope had fogged."

"Wait a minute," I cut in. "You say the scope fogged?"

"That's exactly what I said. It fogged, and, in fact, it still is. I can assure you that if I'd had you right then when that big old boy moseyed off into the woods, I'd of made mincemeat out of you. What upsets me the most is that I've bragged all over the place that you told me this was one scope that you had never heard of fogging. I'll be the laughingstock of the mill."

"I guess there's a first time for everything," I said wearily. "If you want the scope removed, I'll take it off, but I still think you're making a mistake."

When he handed me the rifle, I studied the scope for a moment. Suddenly it dawned on me what the problem was. I worked in vain for several minutes trying to remove the front cover, and I finally asked him if I could cut it off. He told me that as far as he was concerned I could throw the scope, mounts and covers right out the door.

Water Inside Cover

It took only a minute to slit the cover and remove it. I found exactly what I thought I would: the front scope lens was covered with water. Evidently the lens cover had leaked and allowed water to get in. I removed the water and dried the lens with a soft tissue. I handed my customer a scope that was absolutely clear. The expression on his face after he examined the scope was indescribable.

"Is that why you didn't want me to cover the scope lens with non-removable covers?" he asked.

"That's right," I told him. "In this case, water leaked past the cover lens,



HIGH-MOUNTED scope eliminates trouble with safety and bolt handle, but makes it difficult to get proper cheek support on rifle stock.

but condensation can form between the covers and the scope lens and block your vision. These tight-fitting covers cannot be taken off in time for a shot, and the only alternative is to cut them off. You should have used the band of inner tube as I suggested."

"I'm a hard-headed old man," he mumbled to himself. "Sorry I was so rude," he said apologetically.

"Think nothing of it," I replied with a smile. "Just remember, when you get back to the mill, tell the fellows that you still have the best variable on the market, and that I said I still have the first time to see one fog."

"That's precisely what I'll do."

I had just walked into my office to check some correspondence when I heard the door open. Thinking the man had forgotten something, I walked out of the office only to find another fellow holding a rifle that was purposely pointed toward a window.

"This rifle is loaded and I can't get the shell out," he told me quickly. "On this type of military action, the shell must come out of the magazine to feed into the bolt face properly—as you probably know."

"I'm aware of that," I answered.

"This afternoon after I got the barn work done, I drove to my back pas-



SECTION OF OLD inner tube makes a quick-removable scope cover that costs nothing, works well.

ture field. I just got out of the car when a buck jumped the fence and stopped not fifty feet away. I got excited and dropped a round into the action and slammed the bolt forward. The bolt didn't pick up the shell. All it did was force the shell into the chamber. I still might have gotten a shot if I'd had factory loads, but this one is a handload and it must be a little oversize, since it really stuck fast. I couldn't even remove it with a ramrod when I got home. I sure was sick when that buck actually walked across a wide open field."

"That's too bad," I remarked. "I'll have to have the rifle about a day, but don't ever hammer. . . ."

"Oh! I wanted to ask you if it's true a shell can be put off by striking a sharp blow on the front of the bullet," he cut in before I could finish.

"Yes, it's very dangerous to hammer or strike the front of a loaded round. A friend of mine stuck a handload in a seating die. He removed the top of the die, put a steel rod against the tip of the bullet and whacked it with a heavy hammer. The load went off, broke part of the die, and blew pieces of steel and brass right through my friend's clothing and into his chest. He had to have medical treatment to remove the pieces and prevent infection. I use a compression method, but I still

keep a block wall between me and the rifle."

Now that the season is over, what caused you to miss the sneaking spike or the running 8-point? Was it a forgivable error, or are you still trying to kick yourself for allowing such a thing to happen? All of us have made mistakes. Perhaps we made a quick movement when we should have been still; we failed to check our rifle to see if it was sighted in and working properly; or we carried a borrowed gun and failed because we didn't know how to use it. You're not alone; everything from safeties that stuck to sights that somehow fell off caused hundreds (I mean *hundreds*) of hunters to come home empty-handed. Some incidents are almost beyond believing. I installed new sights on a rifle that a man had missed six bucks with. It wasn't his rifle, and he just borrowed it each year without testing it. After eight years of hunting and all the discouragement of missing six deer, he finally brought it to me. I found out that he could have missed six moose just as easily; the rifle shot more than 16 inches high at 50 yards. At 100 yards, the bullet would be almost three feet above a deer's back. For less than \$15 he got new sights, and he added icing to the cake by putting four shots into a three-inch square at 50 yards from my benchrest.

Lots of Reasons

Prior to last hunting season, I had the opportunity to check quite a few rifles. I was amazed at the number of things that could have caused the user to either miss or not get off a second shot. On one new rifle, the ejector was missing. The owner, not being much of a gun handler, wondered why he had to dump each empty out of the rifle. Another man wasted nearly three boxes of ammo trying to shoot in his newly mounted scope. It had a swing-type mount, and I found the axles so loose I could move the scope a sixteenth of an inch in any direction.

After remounting, it took only a few shots to zero the rifle in at 100 yards.

A husky young fellow mounted his own scope, but he had problems. When he brought it to me, he assured me that the screws were tighter than I could make them. His complaint was that the bolt worked hard. He thought the receiver was bent and that the rifle needed to be returned to the factory. When I found out that the trouble developed after he mounted the scope, I simply loosened the back mount screws, and the bolt worked easily. He wasn't aware that sometimes it's necessary to shorten mount screws. On this particular rifle, the screws had gone through the holes in the receiver and touched the top of the bolt. In less than five minutes, his problems were solved.

I remember two Savage 99s that were brought to me to order and install new rotary feed systems. Since I had never seen a worn-out carrier, I took the one rifle apart and found the brass carrier badly corroded and jammed with dirt and grease. A good wash out and some new lubricant put the feed system in perfect order. The second rifle got the same treatment, and each worked as well as the day it

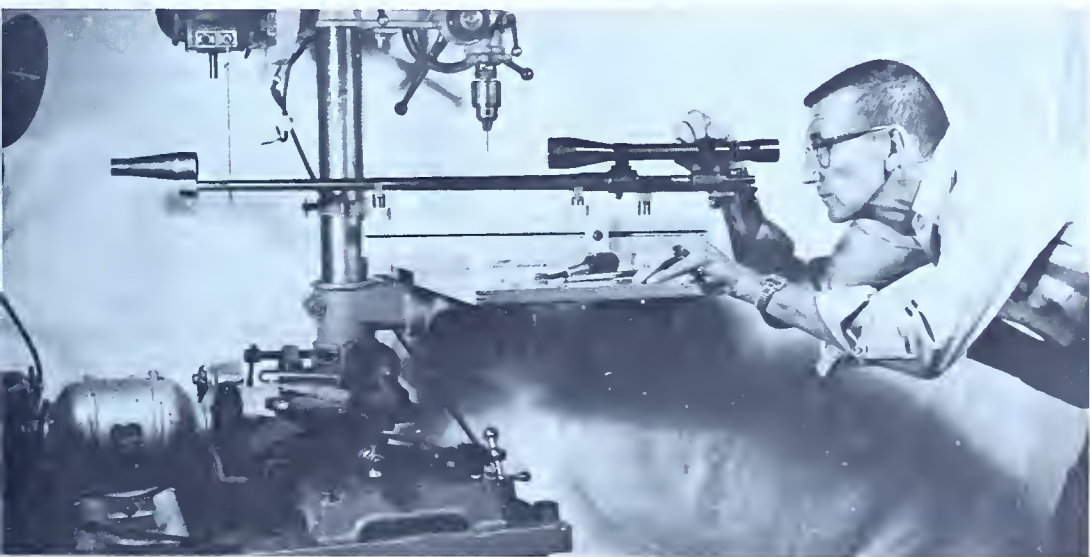
was purchased. Too bad that the owners of these fine rifles waited until they lost their deer before checking out their rifles.

Neglect Zeroing

I could relate dozens of incidents that left hunters frantically trying to get their guns to fire or get another shell in the chamber. Most of the time, a pre-season check would have found the difficulty. I suppose I zero in a dozen rifles on the evening of the first day of the big game season. Normally, each man tells me about the same thing—he thought his rifle was sighted in. I'll never forget the words of one man who told me that after missing the third standing buck from a solid rest in a tree stand, he felt something was wrong. He was precisely right. The fellow who installed the scope didn't tighten either adjusting screw on the rear of the Redfield base. The scope was free to move at will.

A relative of mine borrowed a rifle and missed an easy standing shot. When the buck didn't pay any attention, the fellow quickly loaded the rifle and fired the second shot. This was enough for the buck, and it left the scene in a hurry. We checked the

SCOPE INSTALLATION BY qualified gunsmith is easiest way to get a good job. Here, collimator is used for preliminary scope alignment.



rifle out when he returned and found the receiver sight cranked to the highest notch. At 100 yards, the bullet was nearly two feet high. The owner informed my friend that he had been "crow dusting" at about 500 yards. He admitted they never came close, but they sure had fun that summer. My relative bought a good used rifle the next day. It took only one episode



FOR THOSE who want instant availability of both iron sights and scope, high, look-through mounts could be the answer.

with a borrowed rifle to convince him that every hunter should own his own rifle.

It's too late to undo last year's failures, but, in less time than you think, it will again be time to head for the woods. It's very possible you could suffer from a foolish oversight. If your game is too fast for you or simply outsmarts you, I feel that's part of hunting's thrill. But to lose a deer over a set of scope covers or a stuck handload are things we shouldn't forget. Had the man cut a band of rubber similar to a garter from a used inner tube, he could have stretched it around his scope and been ready to shoot by just flipping it loose with his thumb. With a little ingenuity, a

dandy set of scope covers can be improvised.

I can only suggest that the "borrowed" rifle problem could be licked by using one of the many layaway plans that most merchants offer. Even though it is months until the season there is no better time to purchase a rifle than during January and February. Shop owners are very interested in moving rifles that will be just excessive inventory until the fall months, and prices during this time of year are a little more attractive on used guns.

Heard All Alibis

Only you know if it was a mild case of buck fever or sheer neglect that left you watching a fat buck disappearing from view. A little self control will overcome the "fever," and an evening or two spent in thinking about your next season's hunt might be all you need to be one of the lucky hunters who mail in their big game card. I heartily suggest that if you goofed because your outfit was out of kelter, or you didn't know exactly how to use it, there's no better time than right now to lay the groundwork for next season. Better make up your mind now to do something about last year's failure. Why have to alibi when you could be showing a nice rack to your friends?

Now that it's over, I've heard all the alibis. I've shared some of them with you in hopes that next season may be your best year. Remember, alibis and excuses don't come from success. Prepare yourself and your equipment for the hunts ahead, and you won't have to concoct a story to prove that it wasn't your fault that you didn't score. I might add that all this brings to my mind the time a fat 8-point slid past me free and clear because I couldn't get my hands out of my coat pockets in time to grab my rifle. Believe me, it was zippin' cold! Oh! I had a fine pair of regular hunting gloves. Trouble was, they were still in my car two miles back the trail. . . .

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COVER PAINTING BY J. R. ROWE

The great horned owl is the fiercest and boldest of our birds of prey, a nighttime hunter that will attack a porcupine, a skunk, an eagle—even occasionally a man—with utter disregard of consequences. A dweller of damp forests, impenetrable swamps and deep, dank ravines, his booming *hoo hoo hoo hoo hoo* echoing through the darkness, combined with a weird series of screams, clucks and gobbles, can raise the hackles on any lonely woods wanderer, no matter how experienced. Without the fearless yellow stare of the great horned owl, our wilderness truly would be less wild.

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35,000,001 . . . and Then?

LAST APRIL, the editorial here was entitled, "Do we Need 35,000,001?" Our intention was to point out that we already had an estimated 35,000,000 laws in this country, all supposedly trying to enforce the Ten Commandments, and that some 20,000 of these laws dealt with firearms in one way or another. We did not believe that another law could effectively prevent the criminal use of firearms, and felt that one, if passed, would do little but hinder and complicate the normal life of our law-abiding citizens without affecting criminals in the slightest.

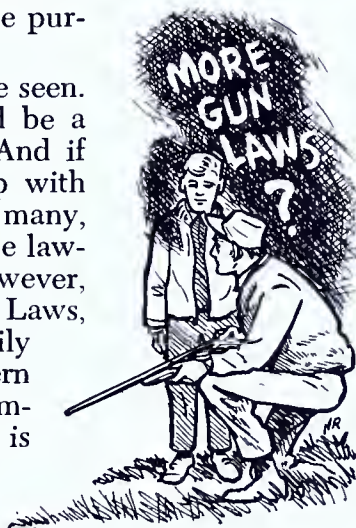
Well, another law has been passed. On December 16, 1968, the so-called Gun Control Act of 1968 went into effect. We now have 35,000,001 laws.

We don't have space to print this law in full (for a copy, plus related material, send \$1.25 to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., and ask for Publication 603 (12-68)), but we feel it should be mentioned here, since it will affect all hunters and shooters in one way or another.

This law's stated purpose is to provide support to federal, state and local law enforcement officials in their fight against crime and violence, and not to place any undue or unnecessary federal restrictions on law-abiding citizens with respect to the acquisition, possession, or use of firearms for hunting, target shooting, personal protection, or any other lawful activity.

In general, this law provides new rules for licensing of firearms dealers and sets new standards to be observed by persons who buy or sell guns and ammunition. A dealer now cannot sell a firearm to an individual who lives in another part of the state, until the dealer is satisfied that the buyer has complied with all pertinent laws and ordinances at the place of sale. In a mail order sale within the state, the dealer must comply with laws applicable not only at his place of business, but also at the place of delivery. Long guns may be sold to residents of adjoining states if the dealer makes certain that the purchaser has complied with the laws and ordinances applicable at the place of sale and in the state or city in which the purchaser resides.

How well this law will attain its goals remains to be seen. We hope it is successful, as crime reduction should be a high-priority objective at all levels of government. And if it is successful, we shooters will be glad to put up with all the "inconveniences" accruing to us—and there are many, despite the pious observations to the contrary of some law-makers and certain self-appointed firearm experts. However, at the moment our feeling is tinged with skepticism. Laws, since time immemorial, have been obeyed primarily only by those who needed no such regulations to govern their actions, and they have been ignored or circumvented by those they are intended to restrict. If such is the case now, where do we go from here? To number 35,000,002?—*Bob Bell*





CHUCK
RIPPER

Even Now, Much of Central Pennsylvania Is But Slightly Populated, and It Abounds in Many Kinds of Game. A Century and a Half Ago, When This Story Starts, This Land—the Moos-Hanne—Was a Pure Frontier, Its Rugged, Forested Mountains, Icy Streams and Shaded Glens the Haunt of Panthers, Deer and Wildcats. And Truly, the Black Moshannon Is Still the . . .

Home of Big Bears

By Albert G. Shimmel

Early 1800s . . .

Sam Askey, after serving in the War of 1812 under General Harrison, moved his place of residence from Milesburg to a hunting lodge near Snow Shoe. Here he hunted wolves and panthers for bounty. The bounty claims were paid at Bellefonte and are a matter of record. He sold venison and bear meat to the lumber camp at Moshannon and on at least one occasion took a canoe load down the river to Lock Haven. His records show that he killed 64 panthers, 98 wolves, about 800 deer and numerous bear. He sold in one season 2700 pounds of bear meat. He died in 1857. . . .

Late 1800s . . .

Thomas Kyler and his wife Sadie lived on a farm near the present village of Kylertown. The story of his encounter with the bear was told to me as a boy when I visited this uncle of my father. Besides the team of oxen he had the first fish pond that I can remember and gave me the privilege of catching a pail of bullheads. I was so impressed by his adventure with the bear that he even took off his shirt and showed me the scars. . . .

Middle 1900s . . .

The skull of the bear in this story is in the possession of Wayne Harpster of Port Matilda. He was a member of the hunting party that found the bear dead, apparently of natural causes. A dentist examined the skull and pointed out an ulcerated tooth, also that one of the tusks was split lengthwise. The measurements are, length 12 15/16 inches, width 8 6/16 inches, total score 21 5/16 inches. The latest (1964) Boone and Crockett "Records of North American Big Game" shows it in fourteenth place for the species. When found in 1946 it ranked in fourth place.

In the year 1965 a bear was killed in the Black Moshannon by Ralph Hughes. Unfortunately, the skull was destroyed before measurements could be taken. A bear that appears to be even larger than Hughes' 550-pound specimen has been observed in the same vicinity. In 1968, a track measuring eight inches long (not counting claws) and 5 3/4 inches wide was found in this area.

Truly, Black Moshannon is the home of big bears. . . .

THE HUNTER loosened the lacings at the throat of his buckskins, ran his thumb absent-mindedly under the strap that supported his powder horn and bullet pouch, then stirred with his moccasined toe the torn earth at his feet. Only an occasional ant scurried about in search of familiar galleries. The print of the huge hind foot was pressed deep. The scattered soil still held a hint of moisture. He set his own foot beside the track, then withdrew it and studied both prints intently. The packed earth at the edge of the bear's track was beginning to crumble. It was the largest track he had ever seen and made within the hour. It almost equaled his own for length.

Far away at the head of the swamps he heard the distant crash of a spar pine. The prodigious appetites of these Farm Camp loggers made his hunting profitable. At the site of the ancient Indian village was a ready market for game. Venison was staple. Bear was premium, demanding double the price of venison. Bear oil for cookery was most valued of all.

Autumn had delayed coming to the high plateau. Weeks before the frost burned the swamp and even formed thin, scum ice in the backwaters. Then the weather had warmed. The maples flamed, the aspens turned gold, then dropped their leaves. To the oaks and beeches the browned leaves still clung, full foliated. The haze of Indian Summer lingered long after its time.

Today, change was in the air. The premonition sent birds together in flocks that fled south. Deer came to the feeding grounds of the oak ridges early in the afternoon. They were restless, taking alarm at the slightest movement or at nothing at all.

The hunter's eye roamed the slopes below as he turned the possibilities in his mind. Ants were thirsty food . . . undoubtedly the bear would go to water. Across the hollow where the bench widened into a cove the timber

was beech, chestnut and oak. Nuts littered the ground. A spring flowed from a confusion of huge rocks overrun with wild grape streamers from which hung heavy, purple clusters of fruit. That was the spot. His mind pictured the highest rock that dominated the cove. If he could be there when the bear arrived.

He thumbed back the hammer of his smallbore muzzle-loader, tested the cap between thumb and forefinger to be certain it was properly seated, then lowered the hammer carefully to hold it in place. Behind him on the ridge he had tethered his pack horse. He glanced in that direction, then moved quickly and silently down the ridge on a circuitous trail that would lead him to the cove. . . .

The chestnut tree at the edge of the cove was fighting a losing fight. The rocky soil furnished scant nourishment, and although it sent its searching roots deep its larger relatives were slowly starving it to death. Overhead, these giants were gradually deepening the leafy canopy and shutting out the life-giving sun. Disease entered a broken limb and was slowly eating away the heartwood. Dead and decaying wood extended from the opening to the roots and was gradually moving around the circumference of the trunk in spite of the thickening bark that sought to heal the scar.

Honey Storehouse

A colony of wild bees had gained entrance and converted the hollow trunk into a storehouse. The vertical cracks in the wood had been sealed and made waterproof with bee glue and wax. Nearly a hundred pounds of new honey in addition to brood combs and thousands of workers crowded the cavity to capacity. Only an occasional dwarf aster escaped the frost and the yellow tatters of the witch hazel blossoms supplied little pollen and less nectar. The warm weather, the heavy pressure that preceded the storm and the shortage of nectar and pollen com-

bined to make the colony restless and short tempered. . . .

A squirrel sitting on a high branch saw the bear coming down toward the water. Its high-hipped shuffle was characteristically awkward, yet the animal moved quietly, quickly and efficiently. The squirrel scolded the intruder with excited churrings and then, finding this noise ineffectual, darted to a high crotch and peered over.

The bear paused by the water. About to drink, he jerked his head to bring both nose and ears into focus. Seeming to forget the water, the bear moved into an ambling lope, following the smell of honey and the noise of the swarm, up the slope to the chestnut.

Excitedly, the bear reared to full height, seemed to inspect the find with its shortsighted eyes and keen nose. Satisfied, he smashed the rotted wood inward with a single blow of his paw. He reached into the crevice and pulled the slab of wood outward. Dropping to the ground he devoured brood

TOM GRABBED the smaller cub and stuffed it into a grain bag after partially gagging it with a stick thrust crosswise in its jaws.



comb, grubs and living bees with equal relish. When he had licked the wood clean he reared again, and in spite of the furious insects, pulled away great dripping combs. . . .

Crux of the Chase

The hunter came quickly down from the top of the ridge. The tangle of grapevines limited his view. He moved carefully. This was the crux of the chase. Minutes later he stood where the slope of the big rock met the ridge. He was preparing to climb the rock when a crash and the sound of splintering wood froze him into immobility. He stood for a few seconds before quietly climbing to the top of the rock. Lying prone, he parted the vines. Not thirty yards away was the largest bear he had ever seen. It reached into the splintered opening in the chestnut while swarms of bees circled its head and other swarms crawled about, seeking to penetrate the thick fur. Once, it paused and rubbed its unprotected muzzle with both paws to be rid of the stinging furies, but immediately resumed its feast.

Slowly, the hunter pushed his rifle forward. Had it not been for the angry bees, the bear would surely have heard the soft double tick as the hammer was thumbled to full cock. The silver blade of the front sight settled on the base of the skull. The hunter's forefinger poised beside the set trigger . . . moved.

When the puff of burned gunpowder cleared, the bees were buzzing angrily around the still, black hulk that lay at the base of the plundered tree.

An hour later, with the aid of a long rope and his pack horse, the hunter had pulled the carcass to a safe distance from the still infuriated insects. Beside the stream he skinned and quartered his prize, stripping the layered fat into the hickory baskets balanced on either side of the pack saddle. . . .

The ground was frozen and the low, dark overcast was spitting snow when he left the Farm Camp next morning. The packsaddle and hickory baskets were empty. The camp boss had even bought the hide. Sam polished the ten-dollar gold piece between his thumb and trigger finger before dropping it into his draw-string buckskin pouch. Overhead a wedge of geese chanted its way southward. Tomorrow he would hunt deer in the valley thickets. . . .

Time—Late 1800s

THE PLUNGER of the churn rose and fell with a regular rhythm under the lift of the woman's brown, capable arms. It was cool under the springhouse overhang where the moss made green lines between the damp flagstones. Her bonnet hung at her back and the black hair that framed her ruddy, pleasant face was lightly touched with gray. A faint crease of annoyance furrowed her forehead above her gray eyes, as for the second time within a quarter-hour she dropped the plunger, stepped to the corner, shaded her eyes with her hand and looked up the long lane toward the Moshannon Road.

Late the day before she had watched her husband Tom ride away, leading the white gelding, loaded high with sacks of grain to be ground into meal. He would reach the mill, stay the night, have the grist ground and begin his homeward trip by noon. She frowned and returned to her task.

The pounding of hoofs, the snorting of horses and an unfamiliar squalling, brought her running to the barnyard gate. The gelding danced under the combined weight of two sacks of flour and a third sack from which a bear cub thrust its head and, though partially gagged, voiced vigorous complaints against such restraint. The bay mare pushed against the closed gate, the stirrups of the empty saddle swinging against her sides with each

nervous movement. Tom's bed and camp roll were still lashed behind the empty saddle.

When Sadie opened the gate, the excited animals crowded into the barnyard. With expert hands she relieved the gelding of his burden, sliding the flour and the still protesting bear cub through the open granary door. She threw the packsaddle astride the fence and quickly stabled the gelding. In spite of voluminous skirts she flung herself into the bay's saddle and turned the mare's head toward the Moshannon Road. . . .

Two cubs had played beside the trail near the border of the swamp. As the horses drew near they stared inquisitively before climbing a few feet up the side of a dead snag for a better view. Tom stopped the horses and looked around. The female was not in sight. The cubs, apparently fascinated by the horses, peered around the snag without thought of climbing higher.

Tom quietly took a canvas grain bag from the packsaddle, slid to the ground and crept around the horses toward the snag. The cubs continued to watch the strange creatures with such concentration that they did not notice the man until he jerked the smaller one to the ground and smothered its squirmings under the heavy bag. Although the cub wiggled and fought, he managed to tie its legs securely. He partially gagged it with a stick thrust crosswise in its jaws and secured by a bag string. It continued to squall while he thrust it into the grain bag and tied the sack around the cub's neck. The gelding shied when Tom dropped the cub into the canvas pocket of the packsaddle.

Both horses bolted when the she bear crashed from the thicket with a roar. Tom managed a few desperate strides in pursuit of the terrified horses before a blow from behind sent him tumbling. Blackness overtook him. . . .

Five hours later, Tom was in bed,



BOTH HORSES BOLTED WHEN THE she bear crashed from the thicket with a roar. Tom managed a few desperate strides. . . .

swathed in bandages from waist to shoulder. A few faint stains showed through here and there. He was pale under his tan but complaining with vigor that Sadie was making too much fuss over mere scratches.

Near 500, Tom guessed the weight of the she bear that lay on the leaf-littered mound at the edge of the swamp. The scars on his back still burned under his homespun. The pelt would make a nice rug for Sadie. With this thought he unsheathed his knife.

Time—Middle 1900s

WHEN the spar cutters that laid waste to the dark pines of Black Moshannon had passed, they were followed by the charcoal burners who felled the ridge oaks to make fuel to smelt and forge the iron from the Bald

Eagle kilns. The larger animals were killed or driven away. The wolves were hunted until there came a spring when the denning caves of Wolf Rocks were barren of pups and the winter nights that had once echoed from ridge to swamp with their howls were strangely silent.

The panthers disappeared like the wolves, exterminated or driven from the land. The deer were hunted for market and sport until their numbers almost reached the point of no return.

Only the bear existed in undiminished numbers. Not so swift as the deer, not so stealthy as the panther, not so bold as the wolves, yet somehow this creature of nature was endowed with gifts beyond his contemporaries. In spite of his bulk, he moved like a shadow. He survived and grew fat where others starved. He was shy, and so followed the motto, "When in doubt, run." For the near-sightedness

of his eyes, nature compensated by giving him an exquisite nose and ears that equaled or surpassed those of most other wild animals. His intelligence allowed him to adapt to changing conditions. During the Moon of Long Nights, the Moon of Deep Snows and the Moon of Hungry Foxes, when other creatures were at the mercy of man, the bear drowsed in his snug den.

Time and nature healed the valley. The Moos-Hanne is once more a valley dark with pine, hemlock and rhododendron. Hardwoods clothe the ridges. The rocky steeps and hollows are unchanged. And what is more, the bear is found here still, his line unbroken from the distant past.

From rock ledges almost hidden by dense thickets of hemlock and rhododendron, cold water gushes and flows down a rugged valley. It loses little of its coldness until it mingles with the darker waters of Moos-Hanne, far below. The ridge trail down to Benners Run winds its way among huge boulders tossed by some ancient convolution. Beside it grow ferns, club mosses and the three-armed umbrellas of the wild sarsaparilla. In the deep accumulation of duff grows a bed of wild ginger, shading its trailing root stems with heart-shaped leaves. Interspersed with the wild ginger, sturdy stocks of arum lift their trinity of leaves above hidden crows, its starch so acrid that only the bear has stomach for such food. Over all, a leafy canopy shuts out the sun.

Jay's Challenge

A jay, hunting through the higher branches, murmuring to himself as he sought some mischief, saw the bear as it rounded a gray boulder some distance above the water. On a compulsion to bravado, it swooped close to the graying muzzle. With a speed that gave lie to the slow, labored gait and low-slung head, the bear's jaws snapped up and shut a fraction short of the jay's blue tail. The bird fled

screaming to the nearest thicket to regain its composure.

The bear continued down toward the water. At the ginger bed he ate a few of the pungent stems, then dug and swallowed a half-dozen of the fiery arum crows. He was thirsty, but more insistent was the urge to wallow in the cool water. His joints seemed on fire and he moved slowly and painfully.

Only Enemy

As he rounded the last boulder that guarded a deep pool, he came face to face with a man. In the rugged range he claimed for his own, this was his only enemy. How was he to know that the creature before him was without weapon, a harmless fisherman? The bear reared, pivoted and was gone while the terrified youth stood rooted to the spot. Seconds later the youngster was running toward the Moos-Hanne, his feet winged by baseless fear.

The sun was low when the bear picked his way down to the sinks above Rock Run. The long retreat from terror had led him across the high plateau with its shallow hollows. It burned away all but a few shreds of strength from his aged body. He drank from the tiny spring that fed the sink and dampened the earth of the wallow. He had been here often. He summoned his remaining strength and staggered into the pocket of damp earth and lay down. He was too exhausted to roll. He sighed deeply and found the rest he sought. He was returning to Moos-Hanne. . . .

The autumn rains were long continued. The dry cup of the wallow filled.

Useless? Lost?

A thoughtful man came by and saw a floating, empty thing of bone and fur. The flesh was gone, returned to elemental things. He took the skull away . . . cleaned and measured it. And now we know it was one of the largest ever of its kind. . . .

Poison Ivy!

WHERE?

WHERE? Right there. You're stepping on it. When was the last time you suffered with Rhus dermatitis, or poison ivy-poisoning? Last year, last month, last week? Chances are you're going to suffer with it again, and soon, perhaps even before the day is done.

But you won't be alone. Seventy percent of the U. S. population is susceptible any time of the year, but more so in spring and summer, to various degrees of Rhus dermatitis should they come in contact with the poisonous sap. It can wreak havoc to not only the external body surface but to the delicate internal organs as well.

Follow along as we explore some facts about the poison ivy plant and explode some myths that have been hanging around much too long.

A quick description of the common poison ivy plant is "leaflets-of-three" (palmately compound), green in color and egg-shaped, usually having smooth edges though some variations of the leaf will also have deep notches. The leaflets and their stem (petiole) grow from a twig which in turn grows from the main trunk of the plant which in a mature specimen is grayish-brown and fairly thick. Poison ivy is a woody plant.

The flowers are whitish in color and the berries in the first stage are dark green; later, sometimes as early as the first of September, they turn white. They remain white during cold weather. As early as the first of September, the leaves may begin to turn lovely shades of yellow and red, which may confuse autumn foliage collectors. Who would expect such colorful leaves to be poisonous?

By Susan M. Pajak



MRS. JEAN HAYWARD and Mrs. Marge Carnahan examine an enormous poison ivy plant at the entrance to an archery course.

No matter what time of the year, nor how much foliage is still lingering on the plant, nor even if the twigs are stark naked, the poison ivy plant is poisonous.

The entire plant is poisonous: the flowers, berries, stems, twigs, trunk and roots. The poisonous sap is found in the resin canals of the plant. The

only parts of the plant found not to be poisonous are the surface cells of the leaves and the pollen.

Since it is a woody plant, poison ivy continues to grow, year after year, somewhat like the nature of a tree to keep growing. Just can't seem to get rid of it! True, the leaves are gone when cold weather hits, but what remains is just as poisonous as the new growth in spring.

The proper name for the poison ivy plant is *Rhus radicans*. The moniker "ivy" is blamed on early New World writers who compared the poison ivy plant with the English ivy plant. The two are not related.

Rhus radicans is almost universal in its habitat. It has been located all over the United States save in the extreme Southwest. In Pennsylvania it can be found in Erie as well as Philadelphia, Somerset or Scranton, just to name a few cities.

Poison ivy wears many masks in that it can be a lonesome vine, a shrubby shrub, a massive covering, or a leafy costume as it slowly engages

FRESH POISON IVY plant entwines the trunk of an ornamental bush in a churchyard of Mrs. Pajak's hometown. It's common to find the poisonous plant in such places.



itself to a telephone pole, creeping ever upward, greedily absorbing the sunshine for its own. It holds tight to whatever it feels like by aerial roots which in most cases are rust-colored.

Birds often drop the seeds that cause it to climb the sides of houses, over garden walls, in flower beds, or through prize hedges and ornamental shrubs. And its root system covers a lot of "underground."

Native American

The poison ivy plant is native to America, suggesting that this plant evolved millions of years ago. Most modern species of woody plants date back about five million years, and some have been unchanged since the Miocene epoch, some 20 to 30 million years ago. Evolution! Most botanists have accepted Charles Darwin's theory of natural selection, or survival of the most fit. *Rhus radicans* is a woody plant, and because of its obvious abundance it certainly seems most fit.

The poisonous sap is a milky-colored to almost-clear liquid. If exposed to air for about an hour it will turn black due to oxidation of sulfur. The milky-colored sap is sticky in nature and will adhere to most surfaces, including your skin.

What happens? According to *Contact Dermatitis* by Alexander A. Fisher, Lea and Febiger, Philadelphia, 1967, this:

"With alcohol and other solvents a crude yellow-brown viscous substance can be extracted from the sap. The residue remaining after the evaporation of the solvents is the antigenic oleoresin. The term 'urushiol' is often used for the oleoresins of the Anacardiaceae plants including the poison *Rhus* family.

"The active dermatitis-producing principle of the oleoresin has been shown to be related to the presence of pentadecylcatechols (PDC) which are 1,2-dihydroxy benzenes (catechols) with a 15-atom side-chain in the third position.

"The oleoresin (urushiol) of the sap of Rhus plants contains catechols which are the sensitizing chemicals.

"The eruption produced by poison ivy is an allergic eczematous contact dermatitis usually characterized by redness, papules, vesicles, and/or bullae."

There you have it. Upon further investigation it is learned that urushiol is a phenolic poison. Add a little moisture and it changes into an oil which has acid properties popularly called carbolic acid which tends to destroy animal tissue upon contact. The reaction on the skin from the poisonous sap is said to be immediate.

But what happens then is delayed hypersensitivity. More important is the fact that the sap contains an allergen factor. It is the allergen factor that determines your degree of sensitivity. After contact with the sap a reaction on the skin is noted in about 24 hours. If it was not for the allergen factor then all medical cases of poison ivy-poisoning would be alike, or in the same degree of sensitivity.

But all medical cases of Rhus dermatitis are not alike. Frightening things can happen, especially in a severe case. For one, itching. Below the skin surface in the dermis are nerve endings. This foreign body intrusion causes them to react and you then itch intolerably.

Bloodstream Carries It

The bloodstream also picks up the intruding foreign bodies and carries them to other internal organs. Your system figuratively hits the panic button. The kidneys go into high gear, trying to overcome this foreign substance, but it is possible they may become so overpowered that a severe kidney infection could occur, leading to kidney degeneration and uremic poisoning.

Swelling, infection, severe inflammation, blisters filled with body fluids, crustiness, loss of sleep, loss of appetite and fever are some other reasons



AERIAL ROOTS of poison ivy plant have hair-like "fingers" that grip almost any surface, make climbing easy on pole, fence or wall.

why you should learn to recognize and avoid the plant. It is not an easy matter to suffer with poison ivy-poisoning. There are hospital records of people visiting the emergency rooms for treatment of Rhus dermatitis because "it got out of control."

Through all this torture, however, there does not seem to be any record of any individual expiring from it. Henry L. Verhulst, Pharmacist Director, Chief, Poison Control Center, Office of Special Health Services, Division of Direct Health Services with office in Silver Spring, Md., stated:

"I reviewed a number of texts concerning plants and did not find references to such deaths." And he adds, "Severe cases of inflammation can occur and a physician should be consulted for treatment of such symptoms."

A physician should be consulted, but how many persons really seek out their doctors when they discover they have Rhus poisoning? The reason some don't is because they concoct their own "curing" potions with whatever is handy at home—such as household



MOST BERRIES on a poison ivy plant turn white by September. The black showing on the cut ends of stems is poisonous sap.

bleach, laundry soap, or even tobacco juice. None of these truly work. There is no absolute cure for ivy poisoning.

You can contract Rhus dermatitis every time you get the sap on your body. That can be done by (1) mingling with the plant again, (2) burning it with other leaves, (3) having a carrier bring it to you. The carrier could be a family pet with the sap on its coat, garden tools, picnic accessories, hunting clothes, sports equipment or whatever. The sap can remain on an article for several years and still be poisonous.

Eating a part of the plant for so-called immunity is extremely dangerous and foolhardy. Your internal organs are at stake. *Never eat any part of this plant.* If you think that blisters on your body were caused by the poison ivy plant, get to your doctor. He will examine the affected areas and treat you accordingly with medicines that will greatly relieve it.

If you expect to come in contact with this plant, as early as February

or March you should begin to think of receiving the specific injections (extract of the leaves) given on a one-a-week basis to reduce the severity of future Rhus dermatitis attacks. Even if you say you have never (never is a long time) contracted Rhus poisoning, you should still be careful. You do not know what can happen in the future.

The following suggestions of care have been advised to Rhus dermatitis sufferers: Keep the body clean by showering often during the day using a soap-free compound; apply one of the lotions on the market for poison ivy-poisoning; do not bandage; dress lightly and avoid exertion.

It would be somewhat tricky to remove the plant from around your house without contracting Rhus dermatitis. Since the sap is found in all parts of the plant, when one starts tearing it up, gloves or no gloves, some sap is almost bound to stick to either you or the garden tools you're using. Be careful if you tackle this job. Use a weed killer but follow label directions carefully.

For an informative and handy reference booklet on the Rhus plants send 10c in coin to the Superintendent of

IN LATE FALL, the berries have turned white, the leaves are now reddish and show signs of mutilation. Winter will soon be here.



Documents, U. S. Government Printing Office, Washington, D. C. 20402, and ask for "Farmers' Bulletin No. 1972." Also discussed in this booklet are eastern oakleaf poison ivy, western poison oak, and poison sumac. All are in the *Rhus* family, all are poisonous.

Wild Tales

Some wild tales have been told about the so-called powers of the poison ivy plant. If they were true our existence would be rather short! This plant does not (1) spit poison, (2) emit poisonous fumes, (3) secrete a poisonous oil on its leaves. What is on its leaves is cutin, a shiny wax-like substance found in the epidermal cells which prevents underlying cells from water seepage.

Laundry soap will neither cure nor soothe the affected skin. Eating parts of the plant will not confer immunity. The only way you can get it "out of the air" is by standing too close to a trash-leaf pile containing poison ivy leaves. As they burn the sap can be carried to your skin by the drifting wind. And lastly, the pollen does not



MATURE LEAVES of poison ivy plant grow large. The big ones here are over six inches long. The small ones were just starting to grow.

"fly up your nose" deliberately!

Still want to go for a stroll through the fields and woods? Go ahead. Just watch where you take a rest. After all, why do you think it was named *poison ivy*?

GLOSSARY

allergen . . . a substance causing allergy or causing it to become manifest

allergic . . . possessing allergy

catechols . . . a crystalline compound contained in catechu

catechu . . . any of several dry, earthy or resinlike astringent substances, obtained by decoction and evaporation from the wood, leaves, or fruits of certain tropical Asiatic plants

dermatitis . . . inflammation of the *derma* which is the sensitive layer of skin beneath the outer layer

eczema . . . an inflammatory disease of the skin with redness, itching and lesions.

hypersensitivity, hypersensitive . . . abnormally and excessively susceptible and/or sensitive

oleoresin . . . a natural product consisting of essential oil and resin

papules, vesicles, bullae . . . large "pimples" on the skin containing body fluids

urushiol . . . a poisonous, liquid, phenolic substance

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R. JENKINS

A Double Earned

By E. E. Apel, Sr.

RESOLUTELY, the young huntsman, Dennis Schmoke, strode from his home and faced the steep mountain trail that wound up the northwestern slope of rugged Jerry Ridge. It was Denny's intention to climb that trail to the top of the ridge. He then planned to cross the flat plateau to a place known locally as the "Sheep Pen" on the northeastern rim of the mountain. He wanted to spend some time in the Sheep Pen area, for he had found excellent turkey sign in that section of the rough, rocky outcropping of the mountain rim. From the amount of scratching he had seen, it was apparent there was turkey feed in that section, and he figured the turkeys would stay close to their food supply.

The Sheep Pen had been formed by a wall of rock splitting away from the escarpment and moving downhill several yards from the face of the rim. This created a rock-walled, alley-like setup, with openings at the north and south ends of the pen-like creation. Denny had ascertained that turkey were entering this natural arena from the south and had been scratching and searching for feed over its entire length. Denny planned to position himself where he could view the south entrance and entire floor of this feeding area. He realized he would have to shoot downward, but felt his position above the ground level of the Pen would be to his advantage and possibly afford a second shot if the first was a miss.

Denny moved his scoped rifle from its cradle on his left arm, slid the strap over his shoulder, and began the steep ascent. He stopped at a spring midway on the climb and later watched several squirrels scamper about a hickory that was loaded with nuts.

The fat squirrels were safe from his gun on this day, but he made a mental note of their location for future reference.

Slowly and carefully he made his way across the timbered plateau and arrived at the Sheep Pen according to schedule. Locating his previously selected hunting seat, he settled down to await the arrival of a feeding turkey. He balanced the rifle across his lap, checked the scope lenses and made sure the movement of gun would not be hampered in any manner.

Time passed slowly. Just as he was about to change his cramped position, he noticed movement at the southern entrance. In a moment he saw an approaching turkey. A large bird, it stayed close to the eastern wall of the natural arena. It moved slowly, alertly, with splendid grace.

Cautiously Denny eased his rifle around and moved the safety off. Suddenly he became aware of an object atop the east wall. He centered his attention on it, but was not able to identify it. He was tempted to use his rifle scope to study the object, but was afraid of betraying his position to the oncoming turkey.

Unknown Object

Though trying to keep both the unknown object and the big bronze bird within his range of vision, he concentrated mainly upon the unknown object. Eventually, he was certain he detected a movement, and this made him chance raising the rifle and looking through his scope. To his amazement, the scope revealed the object to be another hunter—a four-footed one, a *wildcat*.

This was quite a dilemma, with many problems and few alternatives.



HE TIED A HIND LEG of the wildcat to the turkey's legs and draped both over one shoulder for the long hike home.

Snap judgment seemed to indicate that the main problem was, which trophy to collect? Many thoughts raced through the young huntsman's head. First of these was: Wildcats were a rarity, a much-sought prize. Then his stomach prompted him to think, *You can't eat a cat!*

Undecided, he continued to watch the wild scene unfolding before his eyes. The turkey slowly moved along the base of the Pen's east wall. Occasionally, it would peck for an acorn or dogwood berry. The wildcat followed along somewhat behind and above the big bronze bird. Denny remained immobile, watching the drama unfold. He was aware of a slight depression, or dip, in the rim of the eastern wall of the Pen, and felt that when the wildcat approached the dip it would launch its attack from this low point of the rim. Therefore, he eased his position somewhat and squarely faced this part of the outdoor stage. He was braced for prompt action, and was all in readiness for the climax of the act he was witnessing.

The wildcat padded noiselessly along the top of the rock wall and the turkey progressed through the Pen in an almost leisurely way.

As the wildcat neared the depression it speeded up. This put it slightly ahead of the slow-moving bird. At the middle of the depression the cat stopped and crouched, ready for the attack. Denny was sure that action was going to develop rapidly, and watched tensely, observing that the wildcat's tail had begun to twitch.

Definite Plan

A definite plan formed in Denny's mind. He would allow the wildcat to take its prey, then he in turn would dispatch the cat before it could make off with its intended meal.

The wildcat raised up from its crouching stance and sort of withdrew from the edge of the rock wall. From a more or less upright position the cat sprang. Its leap was perfect. The cat landed squarely on the bronze back of the turkey which had moved directly beneath the feline. The attacker grasped the turkey's extended neck in its jaws. A wild commotion and melee followed, then all was quiet—until a shot broke the silence and echoed back and forth between the walls of the Sheep Pen.

Denny quickly found a way to descend into the Sheep Pen. Excitedly, he examined his *two* trophies. His plan had worked exactly as he'd hoped . . . even if it had seemed absurd—almost impossible—when it occurred to him minutes earlier. A hunter's luck, at times, could exceed all expectations.

For a moment he did not know how to handle his trophies. Finally, he tied a hind leg of the wildcat to the turkey's legs and draped both over one shoulder. With his rifle slung over the other, he began the long hike home.

Octo-Hooter

The call of the barred owl generally consists of eight hoots, the reason why it is often referred to as "eight-hooter."



WHILE OTHER SHOOTERS AWAIT their turn, Al Wardrop prepares to send a 190-gr. spitzer boattail bullet 1000 yards downrange.

Here Is a Complete Rundown on the Rifleman's Latest Shooting Sport, Pennsylvania's Unique, Tough Contest Whose Aim Is . . .

Bullseyes at 1000 Yards!

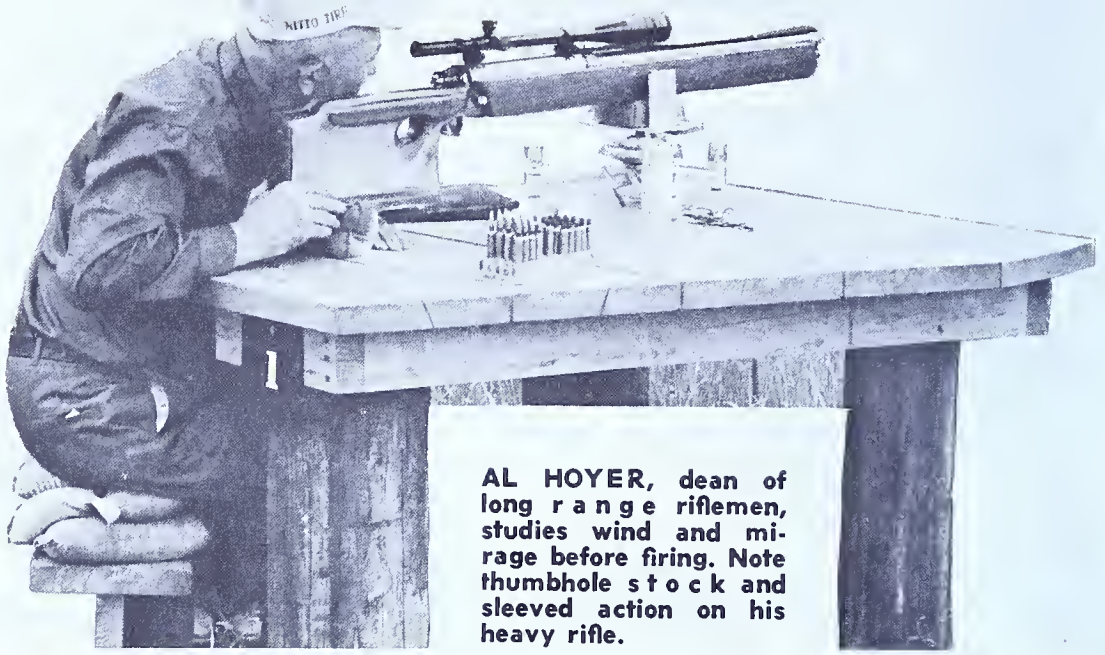
By Al Wardrop

MILLIONS of servicemen are familiar with the Military "A" target. It has a 12" bullseye and normally is fired at from 200 yards, using the service rifle, from one of the long-recognized standard positions—prone, sitting, kneeling or standing. Suppose we were to move that same target well over a half mile away (1022 yards, to be exact), say you could fire at it with any rifle (except a return-to-battery design), of any weight, with any sights, and from any position. What would we have now?

To put it one way, we'd have the makings of a series of rifle matches such as were conducted during 1968 by the Original Pennsylvania 1000-Yard Benchrest Club, Inc. Stated another way, it's the toughest and most interesting kind of rifle shooting I've ever done—and I say this after three

decades of competitive smallbore and big bore target shooting, benchrest shooting with small-caliber high-velocity wildcats, and varmint and big game shooting in various parts of the country. And most of the riflemen who have tried it agree with me.

Here is a competitive shooting event that requires the highest grade of equipment—gun, ammo, scope—along with the benchrest skill of the small-cartridge gunners, plus the wind-doping and mirage-reading ability of the long range target shooters such as those who compete in the 1000-yard matches at Camp Perry and elsewhere. Since firing may be from any position, entrants naturally choose the benchrest with sandbags or other supports at fore-end and toe of the rifle, as this is the steadiest shooting platform available. Admittedly, this is an easier



AL HOYER, dean of long range riflemen, studies wind and mirage before firing. Note thumbhole stock and sleeved action on his heavy rifle.

position to master than the prone-with-sling used in military and similar matches; however, it does require knowledge of certain techniques. At the same time, it permits young or old shooters, who do not have the strength of men in their prime, or women, to compete without handicap. This can interest whole families in the competition, with obvious good results.

This situation is further enhanced by the club rules which permit any number of shooters to fire the same rifle on a given day. Thus if a wife or youngster desires to take part, it is not necessary for each to have his own rifle. This can be important when the cost of a typical rifle, scope and reloading outfit totals hundreds of dollars.

But let's get some idea of how this shoot came about and is conducted. Basically, the idea was to extend the benchrest type of shooting, which has become very popular since World War II, to long range. William K. Theis of Williamsport is recognized as the founder of the club, with David H. Troxell, Williamsport, and George H. Reeder of Cogan Station assisting. These men reasoned that it is more difficult to make small groups at long range than it is at relatively short range, such as the 100 to 200 yards

typical of most bench shots. The difficulty does not increase in simple proportion to the range. It is more than five times as difficult to shoot a minute-of-angle group* at 1000 yards than it is at 200. Much more. And thus the shooting is more interesting.

Finding a place where high powered rifles can safely be shot at 1000 yards also is more difficult than finding one for 200-yard shooting, but after considerable scouting an area on the farm of Irvin E. Plants, some 24 miles northeast of Williamsport (see map) was found suitable and a lease negotiated. Five heavy, solid benchrests were constructed, as well as a pit for five targets. A permanent telephone line provides communication between the pit crew and the firing line, and there is a public address system by which the range officer gives commands.

As mentioned earlier, the exact firing distance is 1022 yards from benches to targets—an odd amount but one deliberately chosen so that no one

*In most benchrest shooting, the objective is to shoot the smallest group; that is, the one with the least distance between the centers of the two holes that are farthest apart in a given string of shots. For decades, riflemen talked of building a rifle that would consistently group its shots in a minute-of-angle, a measurement commonly accepted as equaling one inch per 100 yards of range (one inch at 100 yards, two inches at 200 yards, etc.), though actually it is 1.04 inches at 100 yards.

could claim a full 1000 yards was not being shot.

Information on all range and club operating procedures, fees, etc., is available from the club's secretary, Dave Troxell, 610 N. Grier Street, Williamsport, Pa. Here, we will mention only that a drawing held a week prior to the shoot determines each shooter's firing position and relay; all shooters must pull targets for a designated relay (or provide a substitute); no shooter may shoot twice in one day; and scores and group sizes are posted as the shoot progresses.

After each relay is set up on the firing line, a 10-minute period is allotted for getting on the paper (the entire 4 x 6-foot target). As soon as a shooter gets one shot on the paper, that shot is marked and he stops firing. When all are on, or the time interval has expired, there is a 5-minute period during which three sighting shots are fired. These are marked with spotting discs that are easily seen through the scope, and the shooter may make a sight correction to try to center his group if he wishes. The relay then has a 10-minute period during which each rifleman fires 10 shots for record. These shots are not marked, thus the shooter cannot use a previous bullet's impact as a guide for his next aiming point.** Targets are then taken to the target chairman, who measures and scores them. Results are posted.

During 1968, there were four winners in each day's match—the shooter making the group with the smallest distance between the two widest holes, the shooter firing the highest score, and second places in each of these categories. The Military "A" target has a 12" black bull which scores 5, a 24" 4-ring and a 36" 3-ring. Shots

**However, in order to let the shooter later know how his group formed, one of the two pit men working each target is supplied with a miniature target. As he sees each bullet hole appear, he marks its location on the small target and numbers it. This is given to the shooter after the match, and he can compare it with the records he keeps of each shot's aiming point, estimated wind, etc. In this way the rifleman builds up data which help him in future shoots.



PAUL KEMPFER, Wellsburg, N. Y., the top shooter of 1968. He took three first places and one second—and fired the smallest group, 8½" at 1000 yards.

outside the 3-ring do not count for score. In case of tie scores, the one with the smallest group wins. Shots do not have to be in the scoring rings to qualify for group size, but all 10 shots must be on the paper to win this phase. All 10 shots need not be on the target to qualify for high score (thus 9 5's could beat 10 4's).

Best Group

With all this background out of the way, we can now consider the question that's doubtless of most interest to many readers: How small a group has been fired during these matches at this 1000-plus yard range?

To date, the best 10-shot group has measured just 8½". It was shot by Paul Kempfer of Wellsburg, N. Y., on April 21, 1968. And believe me, this is an outstanding feat. An average-size man's hand will span this group. It would be lost beneath a small dinner plate. A black spot of this size on white paper could not be seen by the normal naked eye at this distance.

Paul Kempfer is 1968's top shooter in these matches. In addition to firing the smallest group of the year, he took three first places and one second, and had the best average (12.81") for the six "best" matches used to determine standings. (Only six matches had to

TABLE I

Place	Name	Cal.	Action	Scope	Barrel	Lgth.	Dia.	Twist	Wgt.	Load ^o	Bullet	Primer	Six Match Group Avg.
1	Paul Kempfer Wellsburg, N. Y.	308 Norma	Jap 38	20X Unertl	Douglas	30"	1.250	1-12	21	75/4831	Sierra 190 MK	Fed. 215	12.810
2	Jon Smeigh York, Pa.	300 Win.	Hart	20X Unertl	Hart	26"	.900	1-10	13	69/4350	Sierra 190 MK	Win. 120	14.580
3	Howard Wolfe Mifflinburg, Pa.	378-30**	Wolfe	20X Unertl		31"	1.250	1-10	28	109/H570	Sierra 190 MK	Rem. 9½M	16.020
4	Stephen Spaga Linden, Pa.	300 Win.	Mauser 98	15X Unertl	Douglas	30"	1.250	1-10	30	78/4831	Sierra 190 MK	Rem. 9½M	16.090
5	George Wurster Montoursville, Pa.	25-06	Springfield 1903-A3	15X Unertl	Hart	30"	1.250	1-10	25	53/4831	Sierra 117 BT	CCI Mag.	16.730
6	Alex Hoyer Mifflintown, Pa.	6.5-300	Mauser 98	12X Redfield 3200	Walker	30"	1.250	1-8	31	82.2/H870	Norma 139	Fed. 215	16.860
7	William Theis Williamsport, Pa.	300 Win.	Rem. 40X	15X Unertl	Hart	28"	1.250	1-12	23	75/4831	Sierra 190 MK	Fed. 215	16.990
8	Paul Campbell Linden, Pa.	378-30**	Wolfe	16X Unertl	Apex	32"	1.375	1-12	25	105/H570	Sierra 190 MK	CCI Mag.	18.060
9	Joe Reitz Sunbury, Pa.	6.5-300	Win. M70	15X Unertl	Douglas	30"	1.250	1-8	25	89.5/X283	Norma 139	Fed. 215	19.030
10	Pat Bonnell Elmira, N. Y.	6.5-300	Shilen	20X Lyman	Douglas	32"	1.125	1-10	16	89/H870	Norma 139	Fed. 215	19.430
11	Kenneth Reeder Williamsport, Pa.	300 Win.	Mauser 98	15X Unertl	Hart	29"	1.250	1-10	19	75/4831	Sierra 190 MK	CCI Mag.	19.440
12	James Theis Williamsport, Pa.	264 Win.	Wolfe	15X Unertl	Hart	30"	1.250	1-9	23	64.5/4831	Sierra 140 BT	Fed. 215	19.680
13	David Troxell Williamsport, Pa.	308 Norma	Springfield 1903-A3	24X B & L	Douglas	32"	1.250	1-10	27	73/4831	Sierra 190 MK	Rem. 9½	19.830
14	Donald Miller Lewisburg, Pa.	25-06	FN 400	15X Unertl	Hart	30"	1.250	1-10	30	56.5/4831	Sierra 117 BT	CCI Mag.	20.710
15	Boydell Theis Williamsport, Pa.	300 Win.	Rem. 40X	15X Unertl	Hart	28"	1.250	1-12	23	75/4831	Sierra 190 MK	Fed. 215	20.890

^oThis is the powder charge and type; i.e., 75 grains of No. 4831.

**This is the 378 Weatherby case necked down to 30 caliber, despite designation which suggests it is a 378 caliber on some 30 caliber case.

be fired in 1968 to qualify for a chance in the rankings, as it was felt that some shooters who lived far away could not make all the matches; this way, they had a chance, though admittedly less than those who fired more matches and were permitted to average only their six best scores.)

The fifteen shooters having the best averages for the six matches are listed in Table I, which also shows the caliber of rifle used by each, and other technical data. One of these men deserves special mention, I feel. He is Al Hoyer of Mifflintown, who might be called the dean of long range shooting in Pennsylvania—or even in this country. For decades he has been involved in this kind of shooting—in specialized big game and varmint hunting, as well as target work—and in many ways he has been the leader in the field. As a full-time gunsmith, he was instrumental in the development of the wildcat 6.5-300 cartridge, which is a 300 Weatherby necked down to accept .264" bullets. In the minds of many experienced riflemen, this cartridge is potentially the finest long range load in existence. Many users feel that at present it is handicapped by the lack of top quality match bullets, and that if such bullets can be obtained it will outshoot the big 30 calibers consistently.

Author's Preference

Personally, I prefer the 300 Winchester, and in five shoots it's brought me one top score (46) and a second-place group (13 3/16"). The Table shows that nine of the top 15 shooters also chose one of the Magnum 30 calibers. There's no doubt that such selection is influenced greatly by the availability of the 190-gr. Sierra Match King, though. I doubt if there's a more accurate bullet in the world.

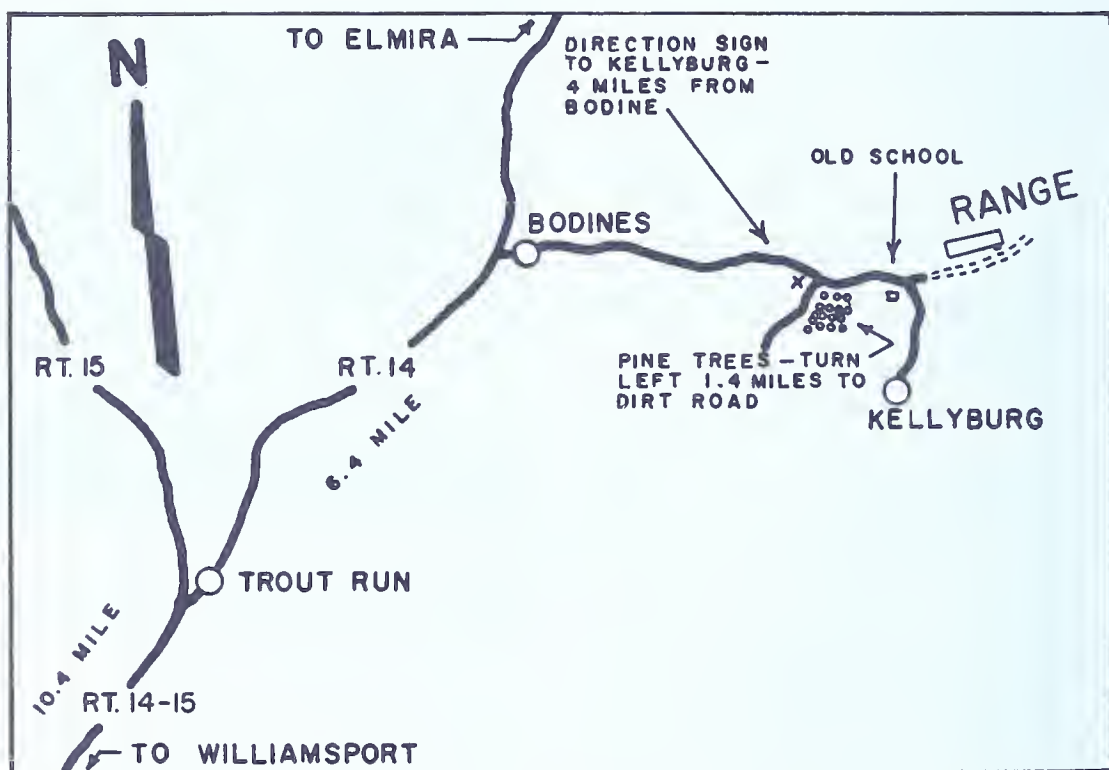
The 6.5-300 was used by three of the top 15, and the similar but smaller 264 Winchester by one. Interestingly, the 25-06, a comparatively small wildcat made by necking down the 30-06



A TELEPHONE LINE provides communication between firing line and target pit. Note large binoculars—liberated from a Japanese battleship years ago.

case to 25 caliber, whose basic form has been around for 40 years or so, has two users in the top group.

As in conventional benchrest shooting, rifles for these 1000-yard matches are built on strong bolt actions, basically of the Mauser turn-bolt design. These have the strength to permit maximum loading of the high-pressure cartridges preferred here. Some actions are sleeved, to increase rigidity. Barrels are long and heavy—usually 1.25" or 1.37" for their full length—to reduce vibration and "walking" due to heating, as well as to make holding easy due to their inertia. Most are custom made. Stocks also are massive, and they're usually made with "glass" bedding, at least in the action area, to get a perfect fit between wood and metal. Most barrel channels are relieved so they do not touch the metal, thus cannot alter bullet impact if the wood warps due to humidity change or whatever. Target scopes having micrometer-type adjustments of ¼ minute of angle or finer are used. The most common magnification is 20X, but anything from about 12X to 24X is normally suitable. The higher powers give slightly better aiming



ability under ideal light conditions, but are more difficult to use when mirage—"heat waves"—makes the target appear to dance and wave in the distance.

Each shooter handloads his ammo, finding through trial and error the combination of powder, bullet, primer and case which will give the best accuracy in his particular gun. Normally, the load giving the highest velocity with top accuracy is the one selected, as reducing the time of bullet flight is advantageous. It flattens trajectory, gives the wind less time to alter the bullet's course, etc.

In the short time this club has been in existence, it has attracted nationwide attention among riflemen. It has 194 members, most from Pennsylvania and nearby states, but some from Kansas, Illinois, South Dakota, and California. Attendance at shoots averages about 55.

There will be 10 shoots in 1969, on the following dates: April 13, May 11, May 25, June 8, July 13, August 10, September 14, September 28, October

12 and November 9. Rain dates are the following Saturdays.

A rifle and scope such as used here makes a fairly expensive outfit, if you're used to thinking in terms of a hunting gun, but at the same time it is cheaper than many other hobbies, it provides a wholesome type of outdoor recreation, and it appeals to American minds which like to solve mechanical problems while at the same time knowing that their ultimate goal is far beyond reach. It has something of the appeal of golf, if a golfer's goal is to put together 18 consecutive holes-in-one, for a perfect round. Not being a golfer, I don't know if they think this way. But riflemen do, for we want to put all our bullets in one ragged hole at 1000 yards. Impossible? Perhaps. But not many years ago it seemed impossible at even 100 or 200 yards. Now it's being done fairly regularly at these distances. Someday it'll be done at 1000. And maybe it will happen at the Pennsylvania 1000-Yard Benchrest Club range. Even if it is 1022 yards long!

**Call Him Wildcat, Bobcat, or Bay Lynx,
He's Still the . . .**

Vanishing Spitfire

By Wilbert Nathan Savage

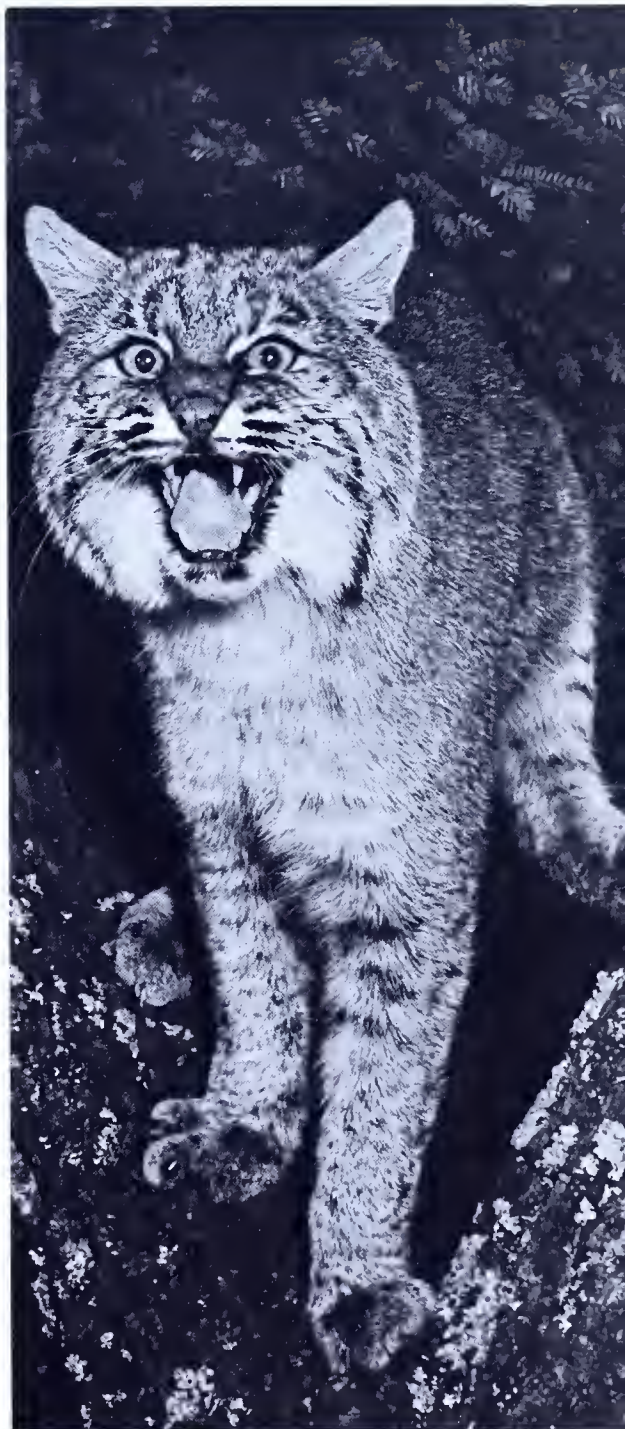
A SSEMBLE all the tales of terror that have been woven about the wildcat and you'll possess a romantic collection that will yield more fable than fact. For whether the episode setting is dated 30 years ago or three times that, greatly magnified accounts of evil behavior have traditionally attached themselves to the wild feline that may correctly be called *Lynx rufus*, Eastern bay lynx, bobcat or wildcat.

No matter what the vintage, Penn's Woods stories of wildcat conduct have of course always been competitive with the best of 'em! Reinforced with plenty of imagination and little restraint, they've tested the credulity of many a trusting listener. Even the Indian of long ago believed that the caterwauling of a prowling 'cat bore special messages worthy of painstaking interpretation! With so many fanciful 'cat stories filling from-here-to-there legend stockpiles, it is understandable that one of the best wildlife encyclopedias published today was moved to comment: "The bobcats have a reputation for ferocity that is more a matter of seeming than of reality. . . ."

But subtract, if you will, all the engaging yesteryear reports of exciting wildcat prowess and you'll still have an extraordinary bundle of furred dynamite that can deliver a whopping pound-for-pound account of himself in any situation where reasonable equity exists.

The side teeth of the wildcat act as shearers; the knifelike edges in each jaw slice up and down, cutting past each other, but do not meet. His four canine teeth (he'd spit at such a

Photo, right, by Leonard Lee Rue, III





IMAGINATION and lack of restraint have led to countless stories about the wildcat which cannot be true—but which are highly interesting.

proper but insulting reference!) are precision battle fangs—a family characteristic, for cats in general (family *Felidae*), have the longest and sharpest canine teeth of all the carnivores.

Lynx rufus sports five hooked claws on each front foot, four on the rear. These are compressed on each side and there are no sharper claws in the world of mammals. Perfect cutting tools, they can instantly be extended or withdrawn into velvety pockets. The feet of the wildcat aren't as large as those of the Canadian lynx, but they are well padded for silent travel. While his legs are more slender than those of his northern kin, the lean hindquarters are fitted with the same type of rangy long legs that so capably act as catapulting springs when the need arises for projection in offensive or defensive action.

Like his hated foe, the dog, the wildcat is equipped with a moist nose and his sense of smell is as keen as his perfectly attuned hearing apparatus. His ears are furnished with hairs

that catch every vibration in the air and accurately inform the animal of movements he has not even glimpsed. Another marvelous warning device: his whiskers connect with sensitive nerves and serve as instruments of touch so delicate and perceptive that they will register the slightest contact with the tip.

The wildcat's keen eyes are directed forward, like the human eye, allowing perfect focus and unerring judgment of distance. Pupils of the eye contract to shut out excess light by day, but at night they dilate to admit every minute trace of available light. The green glow from a wildcat's eyes struck at night by artificial light comes from a remarkable coating on the lining in back of the eye. This highly reflective substance is made up of masses of tiny particles called guanin. These have a silver-like luster which measurably boosts amplification of visibility wherever light conditions are poor.

Although the wildcat lacks the honed cunning of the red fox, he nonetheless is qualified to take his place as a darned sharp fellow in the wild-folk set. He is one animal that can hold an absolutely straight line of travel, no matter how dense the tangle of forest growth may be. Unpredictable, he may sometimes blunder into a partially exposed trap, while on other occasions he'll show admirably keen judgment in avoiding traps set and carefully concealed by expert trappers. Once caught—unlike many other furbearers—he will not gnaw or twist off his foot. He likes to preserve his anatomy—and his dignity.

A wise old 'cat can often thoroughly deceive an experienced pack of hound dogs. One 40-year veteran of wildcat hunting once commented: "You get good days and bad. Some days the hounds report one trail loss after another as they finally straggle in and beg me to call it a day. . . ."

Given a choice, the wildcat likes to den in the inaccessible recesses of

massive rock ledges. If the screening advantage of heavily timbered land is close by, so much the better. The male and female may den together for a while, but Papa flees the scene before the young are born and takes no part in the rearing of his offspring. Two to four are usually born in April or May at the end of a 50- to 60-day gestation term. The female is an excellent mother, allowing her kittens to nurse for up to two months. But the youngsters are sometimes thankless as they near adulthood. Nature writer Ralph H. Anderson once told of seeing a 15-pound wildcat turn on its mother, "... giving her a sound beating."

Where, in Penn's Woods, can the big wild feline be found? At one time the answer would have been, "In every county." No more. Like the panther that disappeared before him, the wildcat is being pressed by civilization into the most remote and inaccessible retreats that he can find. But even as he plays his best cards in the game of survival, he's steadily losing ground and may already be wearing the "vanishing" tag. Talk to mountain folk in many regions where the wildcat was plentiful less than four decades ago, and you'll learn that he's now regarded as locally extinct or so rare that only an occasional wandering individual passes through. Most of those remaining are found in the Northcentral counties. But even there you can only count on indexing the 'cat as "scarce."

Wildcat's Size

About the size of the wildcat—well, here's a good place for a little stimulating controversy. If we check a dozen reference books on the 'cat you can wager that we'll run into some conflicting figures. But old-time trappers who've caught dozens have the average weight pretty well pegged at 15 to 20 pounds. Exceptions? Of course. One of these was the 56-inch male 'cat taken by a Fulton County



AT ONE TIME, wildcats could be found in every Pennsylvania county . . . but no more. Civilization has squeezed him into our most remote areas.

trapper on Town Hill Mountain in 1937. Its weight: 44 pounds—possibly a record for a Pennsylvania wildcat.

The scarcity of wildcats in this state led to their removal from the bounty list in 1937. During the eight-year period prior to that year, bounty was paid on 97 to 211 wildcats annually. Today, so few bobcats are left in the state that some people feel they should be put on the protected list, or declared a game animal with seasons to be set by the Game Commission.

Various factors have put the survival squeeze on the bobcat—things like finding enough palatable prey to satisfy his hunger. A favorite on his menu, the snowshoe rabbit, seems to be diminishing in numbers and this influence alone is enough to trigger a decline in the wildcat population.

While it is known that hares and rabbits are preferred foods of the wildcat, and may comprise up to 50 percent of his nourishment, he does prey on other creatures.

Numerous reports persist that the



Photo by Leonard Lee Rue, III

BY ANY STANDARD, wildcats are scarce in Pennsylvania. Many outdoorsmen and biologists fear they will become extinct in this state.

bobcat kills large numbers of deer. But if you should examine thousands of outdoor magazines that date back to 1899, as the author has, you'd find that most veteran outdoorsmen are of the opinion that a very high percentage of deer brought down by wildcats are cripples or perhaps a deer that can be taken full advantage of in deep, thinly crusted snow.

Remarkably, bobcats often eat porcupine flesh, which shows that the big tabby is willing to mix a few thorns with his roses! (Worthy of note is the fact that a wildcat can deftly handle a porcupine by inserting a lightning-fast forepaw beneath porky's belly and flipping him on his back so that the unprotected underside is exposed.)

Likes Mice

The wildcat also makes short work of mice—38 of 244 'cat stomachs examined contained rodents; 23 contained squirrel flesh; 15 yielded grouse; 25 others contained a blend of skunk,

shrews, and muskrat. Never a pack hunter, the bobcat will eat any fresh kill from a blue-jay to a red fox; from mink to poultry; from fish and ducks to insects and chipmunks. He considers the red squirrel a special delicacy and will run himself ragged or wait with determined patience to catch one.

Wildcat coloration varies considerably, but albinos are extremely rare. A rusty buff is the usual color, overlain with darker spots and stripes. The underside is lighter, with less conspicuous markings. The ruff on either side of the head is not as full as that of the Canadian lynx, which also sports more noticeable ear tufts. The wildcat's tail is usually less than eight inches long, but the author recalls a medium-size 'cat trapped in 1944 by J. F. Browning along the Youghiogheny River south of Confluence, Pa., which had a very distinguished foot-long tail! The coloring of this 'cat was a bit off-key too, being smoky gray.

Amazing Anatomy

The amazing anatomy of the wildcat shows 13 pairs of ribs and usually 30 vertebrae in the back. His blood makes a complete circuit of the body in about 17 seconds and normal heart-beat ranges well over 100 beats per minute. If his temperature is 100° F or a wee bit higher, he's in fine fettle. He is equipped with 12 pairs of cranial nerves and 38 to 40 pairs of spinal nerves.

The bobcat made his appearance at the beginning of the Oligocene period some 40 million years ago, having developed from primitive carnivorous mammals known as *miacids*.

Just how much longer *Lynx rufus* will be around is up to man, for man alone holds the key to circumstances that may finally ring the wildcat's death knell—or wisely guarantee enduring survival in controlled numbers harmonizing with nature's own system of checks and balances.



Photo by Helen Cruickshank from the National Audubon Society

Hammond's Flycatcher in Pennsylvania

By Donald S. Heintzelman

MOST SPORTSMEN are keenly aware of the conservation and recreational values of the many State Game Lands which are scattered throughout Pennsylvania. I'll bet that few of these men, however, realize the value of Game Lands to biologists and just plain students of nature. Yes, these individuals as well as sportsmen find Game Lands exciting places to visit. And sometimes rare discoveries are made there.

Take December 23, 1966, for example. Edward Reed and I were birding on State Game Land 205 near Schneeksville. This is a magnificent area of rolling hills and deep valleys. It was cold, and the steep hillside which we were trying to climb was covered with six or seven inches of wet snow. We had tramped through the snow for hours and didn't relish climbing still another hill. Suddenly, about 30 feet in front of us, a small nondescript bird flew from a clump of

dead vascular plants and landed on a low shrub. We stared in amazement—the bird appeared to be a flycatcher of some kind! Both experienced ornithologists, neither Ed nor I could identify the bird before us. I realized the potential scientific value of the specimen and immediately collected it for the William Penn Memorial Museum in Harrisburg.

Months later, after the bird was prepared as a scientific study specimen, it was finally identified as an immature, female Hammond's Flycatcher by Dr. Ned K. Johnson of the Museum of Vertebrate Zoology at Berkeley, Calif. It was a western species of flycatcher, never previously recorded in Pennsylvania or in all of eastern North America. Thanks to the existence of a State Game Land, an important scientific discovery was made and a new species was added to Pennsylvania's impressive list of bird-life.



r. jenkins



HAWKS

*across
Pennsylvania*

By Ron Jenkins

Pigeon Hawk

(*Falco columbarius*)

HERE is another true falcon. With streamlined build, long pointed wings and defiant attitude, pigeon hawks cut the air swiftly and engage in powerful stoops on prey in the manner of their larger relative, the peregrine falcon.

Normally a native of the forests to the north of us, pigeon hawks come through Pennsylvania on their spring and fall migrations. They follow the large flocks of smaller birds on their annual southward flights, picking up stragglers as they go.

Quick and dashing, pigeon hawks are able to catch swift flying shore birds. Their diet consists of many varieties of smaller birds, mammals and large insects. These hawks are much prized by falconers; they are the American version of the old world "merlin."

Pigeon hawks are approximately 13 inches long. They resemble sparrow hawks but are built somewhat heavier. They are bluish-brown above, with white, dark-brown and black-streaked underparts. The adult male is more blue-gray above than his mate.

These falcons are not attached to ledges and holes as nest sites, and will

just as often construct a stick nest in a tree. Four or five eggs, usually buff colored with dark-brown splotches, are normal.

Pigeon hawks are capable of breath-taking maneuvers and appear extremely swift in level flight. I first saw a pigeon hawk in an open field chasing some small birds. At one point, the falcon came within ten or fifteen feet of me as he rapidly closed the gap on his prey. This was a low-level flight, scarcely higher than my head, and consisted of very little zigzagging since the smaller birds were trying desperately to make the safety of a small woods.

Your chances of seeing one of these flashy falcons in action are slim, but you might see them during migration in the fall. Pennsylvania has some very good observation points for watching the annual bird migration.

You must look closely when he comes. His speed and resemblance to the sparrow hawk might allow this falcon to pass you by. The pigeon hawk is declining in numbers, and such a feathered compliment to our world of nature should be watched through understanding eyes.

But What Does It Eat?

The rock hyrax of Central Africa has the front teeth of a rodent and back teeth resembling those of a rhinoceros.

A Trophy Sewing Kit

By R. F. Cubbins

MOST OUTDOORSMEN sooner or later realize that needles and thread are often indispensable in the field. However, a sewing kit seems so inconsequential as we pack rifles and shotguns, knives and axes, and other major items of equipment, that we rarely include one. But let our big toes work their way inexorably through a pair of nylon-reinforced socks or let the briers go to work on our shirts or trousers and we bemoan our stupidity and cry out for the little woman.

The solution? Make an Iroquois needle case from—and here's the *best* way to save a memento of your successful turkey hunt—the legbone of your turkey. It's a simple task, and you'll have a repository for needles and threads that even the gals will envy.

When you've eaten your fill of the big bird, clean one of the leg bones carefully, but try not to score it with the knife blade. With a hacksaw (or a fine tooth wood saw drawn only one way), cut the knobby ends off so that you have a smooth cylinder of bone three to four inches long.

Using a rat tail file, clean out the marrow until the interior is pink and smooth. Do the job under the kitchen tap so you can rinse it from time to time as you work. Now polish the bone with an ordinary Brillo or

S.O.S. pad, and bring up the polish with a soft cloth.

At this point you can decorate the case. The Iroquois used a variety of techniques to create interesting designs. The one in the illustration was done with a woodburning tool. Equally pleasing and far more intricate designs can be inscribed with the point of a sharp awl or knife. Lay out the design with a fountain pen, scratch it into the bone with the knife point, and use black or red ink to make the design stand out. The hunter may wish to record his name, date of hunt, weight of bird, etc. Rub in some boiled linseed oil, polish the bone again with a soft cloth, and you're ready to apply the finishing touches to your case.

Cut a piece of buckskin or other soft leather about 10 inches long and tapering from three inches wide at the bottom to two inches at the top. Pull it up through the bone so that the smaller end of the leather is at the widest end of the bone.

Cut another strip of leather about seven inches long and an inch wide. Roll three or four inches of its length into a tight button. Pierce the middle of the button with an awl or sharp knife, and push the pointed end of the leather through, pulling it up tight. Now fold over the leather at the top of the bone,



poke a hole through it about one-half inch from the top, and insert the end of the button. Pull the button up tight and tie an overhand knot as close to the leather as you can.

Pull the leather through the bone until the button is seated against the top. With a razor blade, cut about three inches of fringe on the bottom. The Indians usually tied thimbles, pierced brass cartridge cases, or small hawk bells on each of the pieces of fringe. The small silver bells used on Christmas packages are fine for this purpose. However, a better idea for the sportsman is to

tie a few spools of thread on some of the strands. You'll find that ordinary dental floss is excellent for securing these items to the fringe. It resembles the sinew used by the Indians and is almost as strong. A few bells should be added in any case, as they serve the dual purpose of preventing the leather from pulling through the bone and of helping you to locate the case if your memory fails you and you can't remember which pack it's in.

All you need to do now is to insert the needles of your choice and pull the button down.

Permanent Bird Day

The first day of spring, March 21, has been designated as Permanent Bird Day in Pennsylvania, under legislation enacted last year. Residents of the Commonwealth are urged to devote a part of the day to the study of birds in order to become more aware of their beauty, usefulness and importance in the lives of humans.

Days of Yore

TWO ELK WERE INCLUDED IN THE SEASON'S bag, about a half-century ago, when this photo was taken. Lucky hunters included, from left, Rex B. Gray, of Rockton, deputy game warden from 1923-1941; Harry Gray, Weedville; Fred Sallack, Johnsonburg; unknown; Sam Gray, Weedville; unknown; Paul Gray, Weedville.





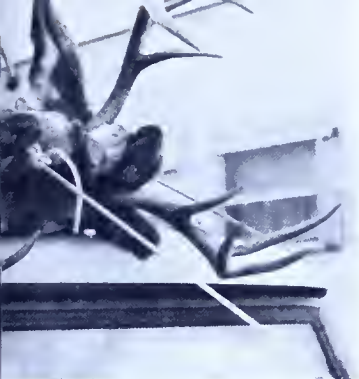
Deer

DURING THE 1968 deer season, biologists manned four check stations during the eighth consecutive year in the Northwest Division the following year; and a few thousands of deer have been weighed, antler growth and width measured, and the county each was assigned an excellent idea of the overall herd in any area, as well as the number there. When related to other data, a great help in allotting a season, and in making other management of our whitetail herd.



AGE OF BUCK is determined by examination of its teeth, top, while exact weight of other deer is taken on tested scales. Information is useful to both hunters and Game Commission.





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During these years, thou-
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PRECISE RECORDS are kept on all
data collected at four deer check stations.
These are highly useful in managing our
deer herd.





FIELD NOTES



Out to Lunch

FRANKLIN COUNTY—I was recently talking to Homer Hall of Everett and he told me of two hunters who on the first day of antlerless deer season were sitting in their car eating lunch when three does walked by and looked in the window at them. Needless to say, the hunters did not get a shot at these curious deer. — Land Manager D. L. Stitt, Chambersburg.



With One Shot?

BEDFORD COUNTY — A person should always be prepared for emergencies, I've heard, and one local hunter should be able to cope with anything that pops up. For example, on the first day of deer season this fellow went into the woods wearing enough clothes for two people and carrying a hot seat, two fried chickens, coffee, binoculars, an extra-long rope, his rifle, and a canvas bag which contained, among numerous other things, 112 30-06 cartridges! All this preparation, and he got his buck shortly after the opening hour. — District Game Protector C. J. Williams, Bedford.

All Talk, No Listen

LEHIGH COUNTY — Recently my wife received a very strange phone call. Upon answering the phone, the party on the other end asked if the Game Warden was home, to which she replied, "No, could I take a message?" The caller then exclaimed, "Can you imagine that—there are hunters all over my property and the Game Warden isn't even home." Again my wife asked if she could take a message and the caller said, "And you, you don't even want to know if you can take a message," and then very abruptly hung up the telephone, while my wife sat there with a great big question mark on her face. — District Game Protector J. R. Fagan, Allentown.

For the Birds

CUMBERLAND COUNTY — In a way, December was strictly "for the birds." During patrols in the South Mountain area, I observed ravens in flight and these are pretty rare for southcentral Pennsylvania. Also observed a flock of evening grosbeaks which were very early in migrating into this area (they usually arrive in late January and February), and last but not least a female grouse in the second floor bedroom of the Union Firehouse in the heart of Carlisle. How the grouse got there is anyone's guess, as it is at least twelve miles from the nearest grouse habitat. It was captured alive and released on the South Mountain, none the worse for its unscheduled visit. — District Game Protector E. F. Utech, Carlisle.

New Nomenclature

LUZERNE COUNTY — Since the field officers began wearing their uniforms full time, we've been called many new names, most of them funny, from fellows trying to be funny. Now we have one more. On Thanksgiving Day, while patrolling Interstate 81 with Deputy Antosh, both of us in full field uniform, we saw a disabled auto that was occupied by an elderly couple. We stopped behind their car and when I asked if we could be of help, the lady turned to her companion and very sincerely said, "Thank goodness, the *road men* have stopped." —District Game Protector C. E. Burkholder, Wilkes-Barre.

Veterans

FRANKLIN COUNTY — On the opening day of deer season, I checked three hardy hunters. Their ages were 81, 72 and 71. The 71-year-old had bagged a nice 6-point buck and had dragged it about a mile. The best part about these older hunters was that none of them were hunting along the side of a highway or riding around in an automobile complaining about the lack of deer. —District Game Protector J. D. Mort, Chambersburg.

Communication Problem's No Problem

SUSQUEHANNA COUNTY — Prior to the deer season, a party of hunters stopped at Deputy Russell Newhart's residence and asked for some game rosters. Wanting to oblige, his younger son informed them that his father was on patrol, but asked how many they needed. When they told him, he led the group to the chicken coop and said, "You're welcome to them, but we only have three big ones left and I don't know what to charge." Chuckling to themselves, these fine sports thanked him for being so considerate and left. — District Game Protector N. J. Forche, Montrose.



Man, That's Crowded!

LEHIGH COUNTY — During our in-season pheasant stocking, one of my deputies had been using a borrowed truck to assist in the program. On the last night, while driving to the meeting place, this truck lost a wheel and could not be used. The deputy, not wishing to put anybody else out, volunteered to use his own vehicle, a Scout. This vehicle, being the closed-in type, could not handle the large-size pheasant crates. Once again, not wanting to upset the stocking program, the deputy suggested that the birds be put in the back end of the vehicle *loose*, and he went on with the stocking for the night with 40 roosters in the back of the Scout. —District Game Protector J. R. Fagan, Allentown.

Hope They All Connected

BRADFORD COUNTY — The news of Pennsylvania's good deer hunting is really getting around. On the first day of the antlered deer season on State Game Lands 219, Deputy Game Protectors George Barrowcliff and John Kolesar checked nonresident hunters from New York, Quebec, New Jersey, Ontario, Florida, Ohio, Virginia, Indiana, Massachusetts, Wisconsin and Connecticut. — District Game Protector A. D. Rockwell, Sayre.

Six-Year-Old Squelcher

CAMERON COUNTY—In the first week of the 1968 deer season, Mrs. Merle Bowser of Emporium stopped me and revealed her ability to identify animal tracks. It so happened that we'd had about four inches of fresh snow and she was sweeping her walk and noticed these huge tracks crossing her lawn. The tracks were so large and far apart they just had to be a large bear, she felt, but wanting more expert advice, five more neighbor women were called over. After many excited



comments all agreed the track most certainly had to be that of a large hungry bear. One woman even pointed out the large toe marks, and others mentioned that the lack of natural food this year must be driving bears down to feed out of garbage cans. The first thought was to bring the young children over after school and point out to them the danger that might be involved if they played outside after dark. After school the gathering took place and the mothers were going through their ritual when one six-year-old boy spoke up and said, "Mom, those aren't bear tracks. Johnnie ran down through here this morning with his football shoes on." Not one woman had a word to say. They didn't have to speak. Their expressions said all that was necessary.—District Game Protector N. L. Erickson, Emporium.

Mighty Mink

SULLIVAN COUNTY—Ralph Brink of Eagles Mere was entering the Forest Inn Park there, when he noticed a ball of brown and black fur rolling around on the lawn. When he approached it, he discovered a medium-sized mink in the process of killing a large rat. Mr. Brink stood and watched until the mink finished the task and dragged the dead rat into a nearby swamp.—District Game Protector D. J. Adams, Eagles Mere.

Positive Thinker

SNYDER COUNTY—On the first morning of antlerless deer season I was accompanied by Farm Game Manager Banks Smith checking hunters. On Game Lands 215 next to the barn we saw a wheelbarrow. I asked Smith why the wheelbarrow had been left outside. He said it was not ours. Further examination disclosed it had been chained to a tree and locked. You guessed it—later in the morning down the road came a hunter pushing it. But, alas, it was empty, as he had not killed a doe.—Land Manager I. L. Dodd, Beavertown.

From Out of the West . . .

LUZERNE COUNTY—While at Hawthorne on Christmas vacation, I was contacted by Ron Kunselman, a young man who claimed he had shot a coyote in northern Armstrong County. I agreed to accompany him to the home of his grandfather to see the animal, and sure enough he had bagged a large male coyote of approximately 30 pounds. I skinned the animal for him so that he could get the hide tanned, and kept the skull to have it positively identified by our Research Division. Ron was a very happy young man and I am sure there is plenty of hunting now in that area for the possible mate to this animal.—PR Area Leader Robert H. Myers, Dallas.

Feathered Trespassers—Beware!

CLEARFIELD COUNTY — Sam Place, one of my deputies from DuBois, is a foreman for an electrical contracting concern and was inspecting the old B & O freight building in downtown DuBois because they were considering remodeling the building. Several windows on the third floor had been broken and some pigeons of the area had set up housekeeping in the rafters. As Sam and his co-workers checked the upper story, they noticed several dead pigeons on the floor. Curiosity caused a closer check of the rafters. There, nicely perched in a dark corner, sat a great horned owl. The men left the building, satisfied with the inspection and perhaps a little relieved to know that the city of DuBois (unknowingly) has a "pigeon control expert" on the job in the center of town.—District Game Protector J. R. Furlong, Ramey.



Very In-ter-est-ing!

UNION COUNTY — In checking deer hunting camps over a period of years I've noticed deer hanging in all positions. This year I believe I can add a new one. At one camp I saw a deer draped over a makeshift sawbuck. Asking a member of the camp the reason for the odd position, I was told they were "shaping it to fit on a Volkswagen." District Game Protector J. S. Shuler, Lewisburg.



Deadlier Than the Gun

CUMBERLAND COUNTY — It is not unusual to hear of a golfer shooting a birdie, or even an eagle on the golf course, but Lloyd Markel, owner of the Cumberland Golf Club, Carlisle, reported an incident to me that, if not a first, must surely be one of the rarest ever to occur to a golfer. Mr. Markle, while golfing with Mark Knouse of Carlisle and John Hess of Shippensburg, drove his ball down the middle of the 17th fairway. The ball, while still in flight and approximately 180 yards from the tee, hit and killed a ring-necked pheasant, the first "pheasant-in-one" ever scored on the club course.—District Game Protector D. R. Smith, Shippensburg.

With One Hand?

PHILADELPHIA COUNTY—While checking a fur buyer in Willow Grove, I watched an old fellow skinning muskrats. His speed fascinated me and I asked how many he could skin in an hour. He told me that in 1943 (when he was at his prime) he and another fellow had a race to see how many they could skin. They worked for 7½ hours, and when they were through, they had skinned 995 muskrats. Man, that is skinning!—District Game Protector R. G. Clouser, Philadelphia.



CONSERVATION NEWS



PGC Photo by Ralph Cady

ROBERT E. FASNACHT, Ephrata (seated, center), was named president of the Pennsylvania Game Commission at the annual meeting held in January. Mr. Fasnacht was appointed to the Commission for an eight-year term in October, 1965. **H. L. Buchanan**, Franklin (seated, left), was elected vice-president, and **Loring H. Cramer**, East Stroudsburg (seated, right), was named secretary. Standing, from left, are Deputy Executive Director **Robert Lichtenberger**, Commissioners **James A. Thompson**, **Nicholas Biddle**, **R. G. Smith**, **Russell M. Lucas** and **Frederick M. Simpson**, and Executive Director **Glenn L. Bowers**.

Tentative Opening Dates Set for 1969 Hunting Seasons

Tentative opening dates for 1969 hunting seasons established by the Pennsylvania Game Commission at its January meeting in Harrisburg were:

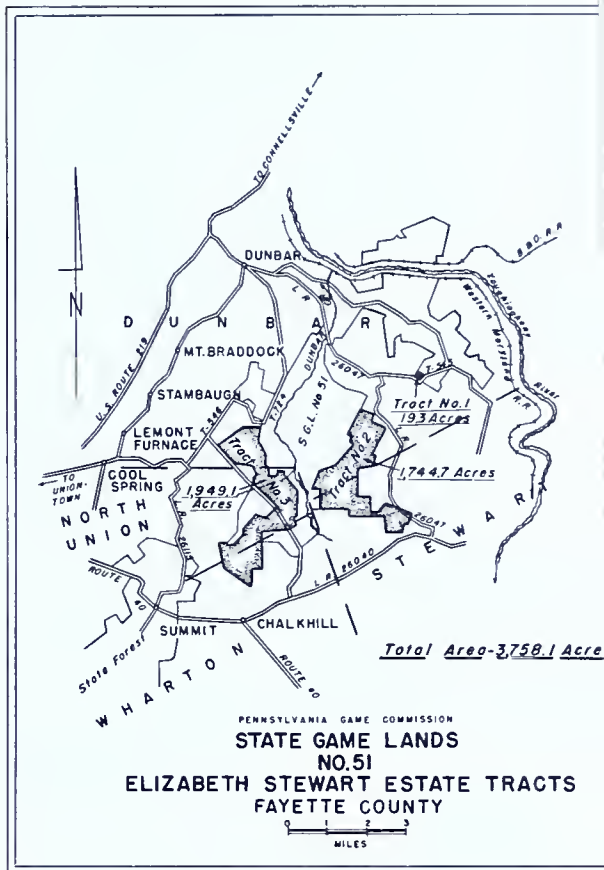
Archery deer	Saturday, September 27
Early Small Game	Saturday, October 18
General Small Game	Saturday, November 1
Bear	Monday, November 24

The Commission previously established Monday, December 1, as the opening day of the regular antlered deer season.

Official dates, lengths of hunting seasons and bag limits will be established at the June meeting of the Commission.

New Game Lands

State Game Lands 51 in Fayette County (see map at right) recently was increased in size when almost 4000 acres were added. The new tracts are predominantly woodland which has been cut over during the past fifteen years. Rolling mountain land with large flats make up the topography, and streams include Glade Run and Limestone Run, which feed Dunbar Creek. Small springs are numerous. The timber cuttings have made good browse for deer food, and white-tails are plentiful, as are ruffed grouse. Rabbits and squirrels are present in good numbers. Overall, the area is excellent for wildlife. It will primarily serve hunters from the Uniontown, Connellsville, Washington and Pittsburgh areas. Its comparatively gentle terrain will be liked by hunters whose physical condition keeps them off the steep rocky mountainsides of some areas.



Watershed Associations

An educational program which will hopefully encourage formation of new watershed associations and strengthening of old ones is being developed by several state agencies. Information on how to form an association, the values of such a group and problems that may be encountered, as well as slide presentations on methods used in dealing with watershed problems, will be presented at six regional locations in the state. The dates and locations follow: March 11, Lebanon (Lebanon Municipal Auditorium, Room 12); March 12, Huntingdon (Juniata College, Alumni Hall); March 25, Latrobe (Greensburg Area, Greater Latrobe Senior High School Auditorium); March 26, Franklin (Venango Federal Savings and Loan Association); April 8, Dallas (Misericordia College, Room 209, Science Building); April 9, Lock Haven (Lock Haven State College, Room 106, Raub's Hall). All meetings, 7:30 p.m.

National Wildlife Week, March 16-22

"Provide Habitat—Places Where Wildlife Live," this is the theme for the 1969 observance of National Wildlife Week. It emphasizes the need to restore natural habitat where it has been destroyed and to protect those areas not yet spoiled. National Wildlife Week points out that the destruction or loss of living spaces for wildlife also has an effect on our lives. Not only are Americans deprived of many of the most thrilling sources of natural beauty, but habitat destroyers such as pollution, wild fires and poorly planned subdivisions reduce the quality of human environment.

Deer Harvest Good in 1968

SPORTSMEN, who in the past decade have become accustomed to harvesting a sizable number of deer in Pennsylvania each year, appear to have had another good season in 1968, according to preliminary Game Commission reports.

Although reports from hunters are still being received, a harvest comparable to 1967's seems likely. During the '67 seasons, hunters reported taking 144,415 whitetails, including the all-time record of 78,268 bucks, plus

66,147 antlerless deer.

Early indications are that the harvest for the 1968 seasons will be in excess of 135,000. Reports are being processed and a final tabulation should be completed shortly.

One of the Game Commission's primary objectives, bringing the deer herd into line with available food supplies and keeping it from direct conflict with other uses of the land, may have been attained.

In the past several years the herd has been at or exceeded the comfortable carrying capacity of the range, and a reduction in the whitetail population, especially among antlerless deer, has been desirable.

Although recent harvests were larger than previous ones, reproduction kept pace with the reduction by hunters, vehicles, nature, etc. As a result, the range deteriorated and the Game Commission resorted to its best available tools, the number of antlerless licenses and length of seasons, to keep the herd in check.

This past year, 482,550 antlerless deer licenses were authorized by the Commission, with allocations being increased where the herd was too large. Not all of these licenses were sold or used, but it is believed enough were utilized to help bring the whitetail population more nearly into line with range capacity.

The extension of the antlerless season by one day was a necessary factor in the Commission's achieving its objective of maintaining maximum breeding stock consistent with other uses of the land and to harvest through hunting all surplus animals over and beyond what the habitat can carry in a healthy condition. The constant shrinkage of hunting territory and the loss of wildlife habitat preclude any major increase in the size of the present deer herd.



Photo by Beaver Falls Tribune

SOME DEER HUNTERS get bigger bucks than others—as this photo shows! Frank Ardelji, RD 1, Darlington, is the fortunate hunter. His 8-point buck, taken in Beaver County in 1968, has a 28-inch spread, weighed 220 pounds.

Bird and Mammal Charts Available in New Size

Full-color charts of Pennsylvania's birds and mammals are now available in a size suitable for framing and hanging in the home.

The new charts are 11 by 14 inches and will fit standard picture frames available in many stores. The charts are especially appropriate for the walls of a den, recreation room, etc.

All birds and mammals in the eight charts are identified by number and name. The original paintings are by Ned Smith, nationally-known artist.

Included in the eight charts are marsh and water birds, waterfowl, birds of prey, birds of field and garden, birds of the forest, winter birds, mammals of farm and woodlot and mammals of the mountain.

Price of a complete set of these eight charts is \$2.25, including postage, tax and handling. Available from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120, or any of the six field division offices of the Game Commission.



Photo by Eldy Johnston

PAIR OF 8-POINT bucks taken in Cameron County by West Mifflin brothers Jim and Tom Prusak, who hunted a heavily forested area four miles from the nearest road. Each deer weighed 160 pounds, and each was 5½ years old, examination at a deer check station proved.

Game Commission Receives \$1,175,476 in P-R Funds

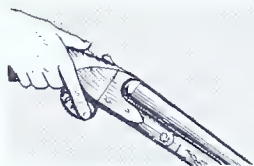
The Pennsylvania Game Commission's share of Pittman-Robertson Wildlife Restoration and Research Funds for the 1968-69 fiscal year totals \$1,175,476.68, an all-time record. E. G. Musser, Pittman-Robertson coordinator, said the Game Commission's final allotment of the federal funds was \$501,825.16. This is added to the initial allotment of \$673,651.52, received last summer. The federal funds are used for the Game Commission's wildlife habitat development and research programs.

The 1968-69 figure is somewhat higher than the previous year's allotment of \$1,002,972.73, which was the prior record apportionment. As a further indication of the tremendous growth of interest in hunting, the state's allotment three years ago totaled \$659,727.

Nationwide, the distribution totaled \$30,320,000, up from the \$26,320,000 provided in 1967-68. Each state's allocation is based on the number of paid license holders and land area.

Federal aid programs for wildlife restoration are administered by the U. S. Department of Interior, Bureau of Sport Fisheries and Wildlife. Funds come from excise taxes levied on sporting arms and ammunition.

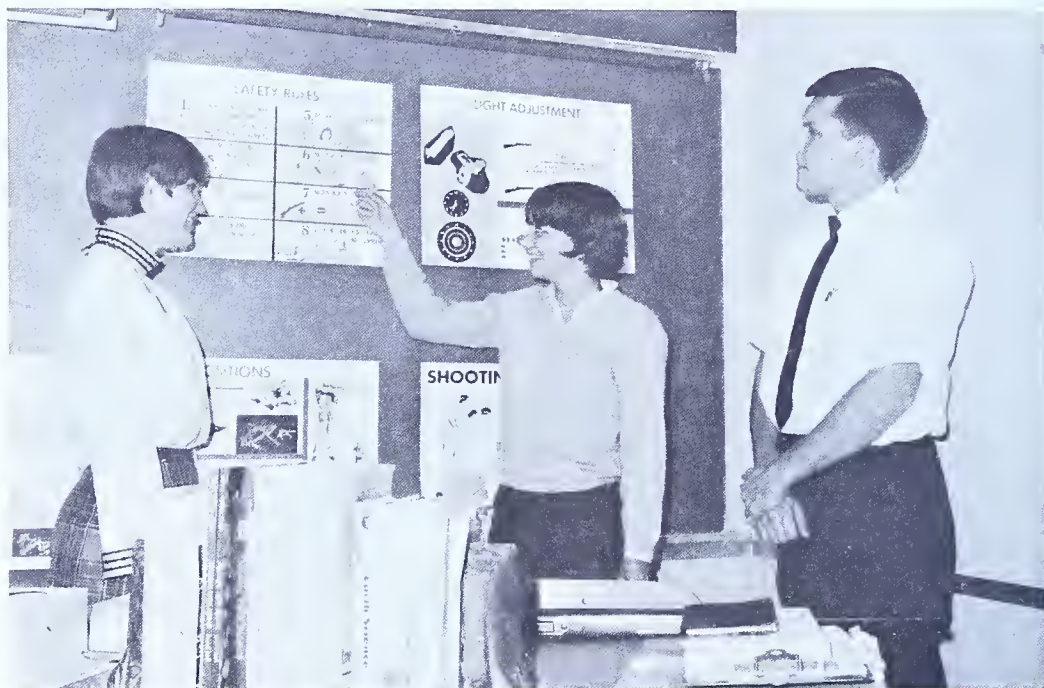
Under the program, states spend their own funds on approved projects and are then reimbursed up to 75 percent of the cost.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



TAKING PART IN THE hunter safety course in Cumberland County were Kristal Redding and Donna Redlich. Jeffrey Yeager was one of the instructors.

School Participation in Safety Training

MANY schools are preparing for the responsibility of presenting firearm safety as a part of their safety education curriculum. With more than half of all firearm accidents occurring in the home, hunters and nonhunters have benefited by firearm safety training.

Compulsory hunter safety training under Section 301.1 of the Pennsylvania Game Law will require all hunters under 16 years of age purchasing a hunting license on or after September 1, 1969, to present either (a) evidence that he has held a hunting license in Pennsylvania or another state in a

prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.

As an example of cooperation with Pennsylvania's Hunter Safety Program, 66 Junior High School students in Lower Allen Township, Cumberland County, were recently certified after completing a five-hour hunter safety course. Instructors for the course were Jeffrey Yeager, a teacher at the Junior High School, and Donald Redlich, father of one of the students. Both are qualified National Rifle Association

hunter safety instructors.

All students received class work in knowledge of sporting arms, safe handling of sporting arms, and the hunter's responsibility. At completion of the training there was an examination and certification.

The West Shore School District, of which Lower Allen is a part, has five Junior High School teachers who are certified to teach firearm safety education. Jeffrey Yeager and David Tschepp present firearm safety to students on a voluntary basis at Lower Allen Junior High; Glenn Bushey has been active in teaching hunter safety for five years at Lemoyne Junior High School; and representing the New

Cumberland Junior High School are W. B. Shearer and W. J. Lloyd.

In arranging class schedules to provide hunter safety at Lower Allen, Principal Donald D. Smeltz stated, "Not only are we happy to have the opportunity to provide this course as a part of our safety program sponsored by the Pennsylvania Game Commission, but also we are interested in lifetime sports recreation activities that students can learn and enjoy all of their lives. In addition to the knowledge gained in the safe handling of sporting arms in the field and home, the impact of instructional material presented by Mr. Yeager and Mr. Redlich is impressive."

Hunting Safer Than Bathing

EACH YEAR news stories combine auto fatalities, heart attacks, etc., with accidents caused by gunfire to sensationalize news stories. This exaggeration causes many people to believe that hunting is a dangerous sport. It's not. It's much more dangerous to take a bath.

Hunting, a sport enjoyed by approximately 18 million people, ranks sixteenth in danger in a list of sports and recreations. Over a five-year period, one insurance company paid out on 777 hunting accidents, and 4318 football accidents. The following common activities were compiled in order of risk: football, winter sports, baseball, bathing and swimming, basketball, skating, hiking, bicycling, picnics, outings, golf, horseback riding, boating and canoeing, gymnastics, fishing, hunting.

Bicycle accidents in traffic caused 700 deaths and 34,000 injuries in the United States last year. In Pennsylvania, 32 cyclists were killed and 2867 injured.

Firearm fatalities show 7.6 deaths per million people. Many of these are self-inflicted. An insurance company study shows 11 percent of these vic-

tims were under age 10. Nearly 40 percent were 10-24. Eighty percent of the total were males. One-fifth of the accidents occurred while cleaning, oiling or repairing the firearm. Approximately 15 percent were caused while playfully pointing the gun.

Pennsylvania firearm accidents while hunting during 1968 have been reported as 470 non-fatal and 23 fatal, at the completion of the big game season. Preliminary statistics show that 36.1 percent were self-inflicted. Hunting unprotected birds and animals accounted for 23 non-fatals and one fatality. There were 20 non-fatal, and two fatal woodchuck hunting accidents, which was lower than the previous year.

A total of 375 persons were injured while hunting small game. Big game hunting accidents were down approximately 50 percent from 1967, with 46 non-fatals and 10 fatals occurring while deer hunting. Bear hunters were involved in two non-fatal accidents. Archery accidents decreased, with 14 non-fatal accidents reported.

Final statistics for Pennsylvania's hunting accidents will be reported at a later date.

BROKEN-DOWN BOWS

By Keith C. Schuyler

Photos by the Author



MRS. ELOISE SCHUYLER displays one of the early takedown bows. Made of Swedish steel, it still performs well after years of use.

EARLY in the 1950s, I was shopping for a bow that would fit the lady in my life when I was attracted to a metal offering that came apart at the seams. The thing was built that way. Today it is known as a takedown bow. And, although the principle is at least nearly 100 years old, its modern application is something else again.

The first takedowns were known as “carriage” bows, “demountables,” or “jointed” bows.

No one seems to know where the term carriage bow developed. Perhaps the takedown principle permitted it to be easily carried in a horse-drawn carriage. That it was ever used in defense against marauders or highwaymen seems rather remote.

Although the terms demountable and jointed seem obvious, only the former is fully descriptive. One definition of demount is “to take apart.” Yet, this is a cumbersome word today. On the other hand, jointed has many connotations, and the one which applies here could be misunderstood. Any bow which joins at the handle could be considered jointed. And it could be easily confused with a grafted bow which is comprised of two limbs joined at the handle by glued joints.

The term takedown is fully descriptive and is at once easily understood. My dictionary defines the word as “made or constructed so as to be easily taken down or apart.”

Yet another term has been introduced which is certain to cause some controversy in the industry: take-apart. This one popped up in an effort to distinguish bows which fold together from those which come in two or three pieces. The folders want to use the term takedown. However, such bows are simply collapsibles.

I didn’t start this thing, but I can see considerable confusion for bow purchasers unless definite and properly descriptive terms are used. A break-away bow is either a takedown

or a collapsible; it comes apart, or it folds. It doesn't matter how this is accomplished. But, terminology does become important when it is considered that, because of their practicality, there will likely be more and more bows embodying one principle or the other.

For example, Root's Golden Eagle, which comes apart, is rightly a takedown. Sabo's SSR, although it can be completely disassembled, is a collapsible in operation, since the limbs in use at the time can be folded for transport even though it is a simple matter to replace both limbs. The type should be determined by what principle is employed in normal use of the bow. In use for a number of years is a two-piecer made by Groves Archery Company of Albuquerque, N. M. The Grimes bow is another takedown long on the scene.

Today's takedowns are a far cry from early endeavors, but we cannot pass up the beginning efforts without doing an injustice to those who first tried regardless of their degree of success. It is notable that the first patent for any bow was for a takedown bow. It was issued, according to no less an authority than Dr. Robert P. Elmer, to one Ephraim S. Morton, of Plymouth, Mass., on May 14, 1872. However, one Horace Ford is credited with mentioning them in England as early as 1856.

Ephraim's effort was tied to a gadget that was little more than a toy. It had a wooden handle into which metal limbs of heavy wire or metal rods were inserted. Each limb had a spiral curl, according to the records, and this would lead one to believe that this would cause it to work somewhat

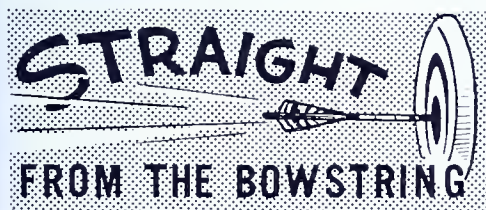


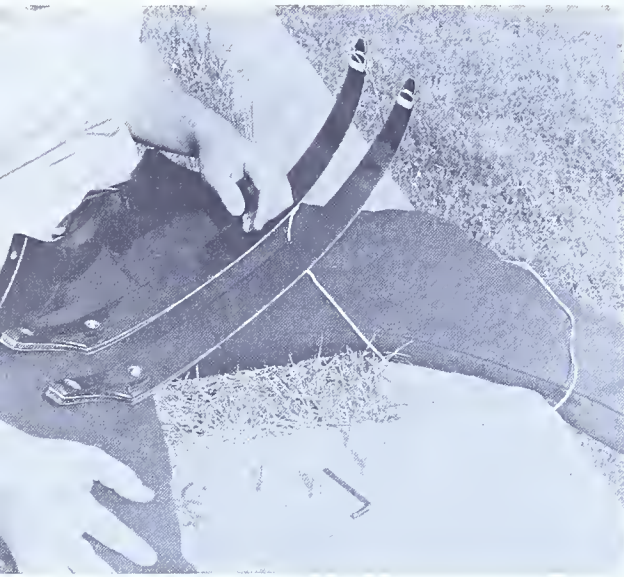
CLOSELY MACHINED "knuckles" provide a dovetail metal joint which makes this takedown as solid as a conventional one-piece bow.

on the principle of a safety pin. While this bow apparently did not become popular when it appeared shortly after the Civil War, the principle of a takedown bow did not die.

Next mention of note in support of the takedown centers around 1925, when Dr. P. W. Crouch used one of yew to establish a new record (626) in the Single American Round, while winning the national championship. It is an interesting aside that he also was the first champion of prominence to use a sight.

Early wooden takedowns were a bit complicated. On the butt of the limb, the wood was worked down to accept a metal ferrule. Cement was applied to hold the ferrule in place, and a wooden wedge was driven in to firm the trimmed-down end of the limb within the metal ferrule. The same procedure was used to attach the sheath which received the limbs at each end of the bow handle. On the ferrule itself, a small steel pin was incorporated so that it could be introduced into a slanted slot in the metal sheath. Care-





CHOICE OF riser section and limbs makes this takedown model adaptable for easy transportation to hunting grounds or target tournament.

ful planning was necessary so that the bow would be in perfect line when the pin was twisted into the limit of this slot.

Move to Steel

It was the later move into steel that provided the first real impetus to the takedown principle. Steel golf clubs provided the inspiration that led to a partial takedown; i.e., one limb was permanently set in the handle and the other was fitted by hand into the opposite end. American Fork and Hoe Company, of Ohio, developed the idea introduced by George Hays, of Indiana, a friend of the company's manager, Robert H. Cowdery. Few bows were sold until Dr. Robert P. Elmer suggested a "U" shape by partially flattening the tubular sections and bending up the edges. The idea, although not new, worked, and the True Temper Bow was marketed for a time as a full takedown bow. However, it was dropped about 1930 when the market did not justify mass production.

About this time the Swedes were busy adapting their famous steel to bow making. Manufacturing was done

in the See Fabricks Aktiebolag, in Sandviken. First bows were of the one-piece variety and they appeared about 1935. Later efforts produced the two-piece takedown model which caught my eye in the shop of Dominick Macaluso near Fair Lawn, N. J. At the time, the Seefab was one of the hottest bows on the market.

Although the 47-pounder was too much for the little woman, even with her 25½" draw (I should have known better), the Swedish takedown proved to be one of the most durable in my arsenal. After over 17 years of use, it is still going strong. In fact, I had to borrow it back from a friend to get photos for this treatment of takedowns. It still has the fault common to many metal bows—it is tough on strings. It does not have the smoothness of modern fiberglass laminates. Further, it was necessary to treat it for about a week with an anti-moisture agent to free the metal connection after years of bow hunting with it jointed in all sorts of weather. But its total performance over its continuing lifetime is a tribute both to the takedown idea as well as to the steel in its construction.

Today, the need for hand shorten-

AN ALLEN WRENCH is used to attach limbs of this three-piece bow to the riser section.



ing normal-length bows takes many directions. Although only a handful of domestic manufacturers currently make them, more are sure to follow.

Probably the foremost need is if you are using air transportation, but motor bikes, bicycles and motorized snow sleds are opening up new hunting territory also.

It was brought realistically to a group of us who flew West on a recent deer hunting excursion. We had to go to considerable effort in packing to ensure that our conventional archery equipment would ride well, whereas takedown bows could have been tucked under airplane seats with no difficulty.

Space is always at a premium in light planes, and the neat cases which contain takedowns take up minimum storage area. It would be next to impossible to carry some of the longer bows comfortably in such craft. Except when in hand on the target line or in the field, a bow is a cumbersome piece of baggage.

How Affect Shooting?

How does the takedown principle affect the shooting qualities of a given bow? In my experience, there is nothing to indicate that current products are detrimentally affected in any way.

A case in point is the Wing Presentation II. Not only is this excellent bow made for hunting, but also a separate set of limbs can be purchased for target shooting. A choice of handle riser sections, to which the limbs are fastened, is the base for this dual-purpose bow. There was some fear in this corner that rough handling could upset the trim of the bow with the removable limbs. In practice, this apprehension was completely eliminated.

Positive positioning of the limbs is accomplished by the insertion of two set screws in each. An Allen wrench is used to tighten the screws so that there is no chance of slippage. Al-



IT TAKES A CLOSE LOOK to distinguish a modern takedown bow from a one-piece laminated bow.

though the riser section is heavy enough to provide a solid base for the limb action, provision is also made for fastening a stabilizer. A durable plastic case, measuring only 29 x 12 x 4 inches, provides a light and easy-to-store receptacle.

Another relative newcomer to the nation's bow racks which embodies the takedown principle is Ben Pearson's Signature. This is a lightweight 58" hunting beauty which is joined at the riser by a system of aluminum alloy knuckles. These three finely machined projections, which extend from a core of the same material in the riser, fit into matching slots, and the connection is held tight by a pin which extends through the dovetailed joint. The pin is easily turned into position with a coin or screw driver. For the bow, a zippered vinyl case with safe padding measures 31½ x 9 x 2½ inches and provides a package for safe transport.

Since the Seefab connection in the metal bow is merely an extension of one limb which fits and turns into the sleeve of the handle, we have here three examples of bows which can be



COMPACTNESS of this takedown model makes it a natural choice for the traveling archer who hesitates to entrust his bow to the baggagemen of the carrier.

broken down for easier carrying. Although no case was available for the 64" Swedish bow, it can be wrapped into a package only 33½" in length. Its durable construction makes it a good second bow to carry on extended trips where a spare might be needed. It cannot be expected to compare in performance with the more modern bows, but it certainly owes me nothing.

Probably the most important factor in the new bows, other than their easy transportability, is in the fact that they lose nothing in performance because they can be made to go to pieces. If properly assembled, and none of them is difficult to put together, they will shoot as well as another bow of like make, power, and material weight. Except when their disassembly feature is employed to case them for transport as needed, there is no need to take them apart if proper storage is provided. Consequently, if it is not necessary to fold or disassemble them between trips, the owner would do best to keep them in one piece. Although each that I have used could undoubtedly stand many, many takedowns without any effect on their shooting, frequent and useless disassembly might take its toll over a long period.

No bow should be carried long distances uncased, since normal vibrations in an automobile trunk or other transportation against other baggage or parts of the vehicle can cause damage to fiberglass limbs. Although custom cases, which are fairly expensive, can be replaced by proper homemade ones, it is especially advisable to use a case for takedowns. No one should ever run the risk of damage to the finely constructed connections.

It is amazing how a cumbersome bow becomes simply another conveniently carried bit of baggage when it is broken down for transport. The case can be tied to a bicycle, motorcycle or trail bike for transport over terrain that won't accommodate a larger vehicle. They will fit easily into some of the compact cars wherein a fully assembled bow is a major nuisance if it can be carried inside at all. On a pack animal, a takedown bow case is a minor addition which can be tied to a rope or strap for easy accessibility. When hiking in, a takedown can be carefully wrapped in flannel or some other protective material and carried in or attached in its custom case to a back pack.

Only Drawback

The only drawback to having a bow disassembled is its relative unavailability in the event it is needed. Times such as these would most likely only occur on trail trips or when traveling overland through good hunting territory on the way to the ultimate destination.

However, this is a small price for the convenience provided by the takedown feature.

Although the accent here has been on hunting, all bowyers may watch closely public acceptance, or lack of it, in the breakaways. With increasing participation in professional target tournaments, the distances traveled become more and more a consideration. Even within a state, use of air transportation for the longer hauls is

certain to increase. When championships are on the line, the long drive, and frequently attendant loss of sleep, en route to a tournament may mean the difference between being top bow or one of the also-shots.

Too, although airlines have improved their baggage handling, none are infallible. No top targeteer wants to run the risk of having his tournament equipment lost or misdirected on the way to the big one. Few would let it out of sight for a moment if it could be prevented, but at the moment, it can't.

Whether the modern adaptation of an old concept in bow construction will become widespread in the industry remains to be seen. If the bows now being offered are examples of what can be done with the takedown principle, further development in this direction would appear to be dependent upon archery's need rather than capabilities of modern bowyers.

What is being offered today certainly appears to guarantee that break-away bows can be made that will stand up to what is required of them—on the target line or in the field.

Needed: Big Robins!

An Australian relative of the common earthworm ranges in length from 4 to 11 feet.

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By NED SMITH

March means spring . . . and it brings some zany mergansers, a submerging fox sparrow, some neighborly snipe, a nearly-white skunk, a grounded woodcock and an ambitious grackle . . .

WHERE spring is concerned, very often "it's later than you think." While we are eagerly awaiting the return of the bluebird, other signs of spring have already sneaked into the picture unnoticed. Long before the wild geese come clamoring over the southern horizon, the waterfowl that have wintered with us are stirring with their annual restlessness. In scattered patches of open water mallard drakes are bowing and rearing, spreading their wings in the courtship ritual. Goldeneyes far out on the river poke their bills skyward and kick water behind them to impress prospective mates.

In the lowlands a greenish-yellow flush is appearing on the willow's twigs. The buds of many trees and shrubs are swelling, the miniaturized and tightly folded leaves and flowers threatening to burst their scaly covering. Where snowbanks have melted, the wintercress's rosettes are growing vigorously. Their glossy leaves are already big enough to make gathering a mess of greens a snap.

Even the hibernators are stirring. Along the woodland path a mourning cloak butterfly crawls from his crevice beneath the bark and spreads his gilded wings in the sun for the first time since last autumn. And a bat, waking from his wintering cave among

the rocks, makes a tentative flight through the leafless woods to try his leathery wings.

Up on the ridge a great horned owl raises her ponderous body from her nest in the ancient pine to study for a moment the downy white chick between her feet. Scrawny neck outstretched, oversized head resting heavily on the bed of twigs, the hatchling pants with the exertion of wrenching free of the egg. He himself is a sign of spring, one of a multitude who arrive unnoticed while spring-watchers are looking the other way.

March 2—A pair of muskrats living in our pond seldom strays more than a few yards from the big snowdrift that slopes from the breast of the dam out onto the ice. And why should they? They've got a warm bank burrow under the deepest part of the drift, near the waterline. They've got a network of tunnels radiating from their burrow to emerge along the drift's perimeter on the breast of the dam. The tunnels are carpeted with luscious grass and sedges, where it hasn't been nibbled down to the ground, and more food would be instantly available by the simple expedient of digging more tunnels. In the evening I occasionally see the 'rats hunched near the tunnel mouths nipping off grasses where the

wind has swept the snow away, but they are quick to scurry back into their frosty sanctuary at the first sign of danger.

March 4 — The Susquehanna above West Fairview is broken by rocks, ledges, patches, and islands. There, where the hurrying waters have remained free of ice, a number of goldeneyes, buffleheads, and mergansers have been feeding in the fast glides and resting in the quiet eddies all winter.

SPARROW
HAWK



This afternoon I set up the telescope and watched a flock of American mergansers—eight drakes and five hens—cavorting in the warm sunshine. The drakes were clearly in a courting mood and their antics looked completely zany to me, although the hens watching from a little eddy to one side didn't seem to regard them as unusual. One drake would drift down and swim slowly among the hens with tail erect, turning this way and that to exhibit it from every angle. Then, like an exuberant child who knows everyone is watching, he would put on a burst of speed, roaring up the river, then down, then back and forth, careening about and tossing up a wake like a miniature motorboat. The similarity to an outboard planing hull was

heightened when he cut his throttle and his long slim body immediately settled into the water to mid-depth. His capers usually turned on several other males, and for a while the waters were churned in every direction by speeding mergansers.

When not charging about, the drakes returned to swim quietly among the hens. On occasion one would throw back his glossy green head, point his crimson bill skyward, and rear out of the water to show his snowy breast and coral-tinged underparts. At other times he would suddenly lash out with his broadly-webbed feet, sending a spurt of water arching through the air four or five feet behind him, and in a moment of indiscretion a hen would sometimes respond with a kick of her own. As each male completed his repertoire and a few encores he drifted downstream to join other males gathered in an eddy there. Then, after a suitable rest, each would paddle upstream and go through another performance.

It was an entertaining spectacle, as are the courtship displays of most wild ducks; the brilliant colors of the participants and the attractive setting made it all the more memorable.

March 9—We seem to have an abundance of sparrow hawks in our valley this winter—possibly because we have an abundance of meadow voles, which are their favorite dish. The little falcons usually perch on utility wires, but occasionally one hovers in midair while scanning the ground below. Today I watched one of the latter, and saw a remarkable demonstration of true mastery of the air.

The little hawk was hovering about twenty feet above the railroad bank at McClellan. Flying conditions were rough—a strong wind swept in from the river, punctuated by sudden and violent blasts that lashed the treetops like so much grass. Through all this the little sparrow hawk maintained his midair position as though tacked to

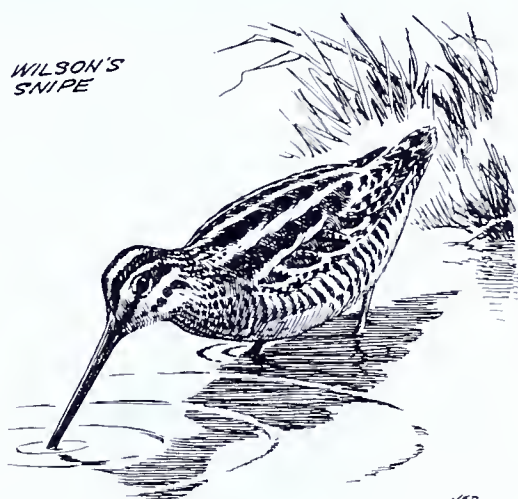
an invisible support — beating his pointed wings furiously, pausing or flashing them alternately to maintain balance—whatever the occasion demanded. By sighting on a pole insulator beyond him I ascertained that he never moved as much as an inch from the spot in spite of the wind's erratic buffeting. After several minutes he "let go" and tacked downwind to another location, where he hovered as skillfully as before.

March 14—Most of the snow has disappeared and today it feels more like May than March. A dozen or so big fox sparrows have been feeding at my blind above Lebo's pond this week, and I've been getting what should be some good color photos. When it comes to scratching among the fallen leaves they don't take a back seat to any other bird, except possibly the towhee. This afternoon I was focused on a nicely marked individual, waiting for him to move out from behind a distracting blade of dead grass. But he had found good eating. He scratched and pecked, scratched and pecked, always in the same spot, until I realized that he was sinking lower and lower into the ground. Through the camera finder I watched my handsome model gradually sink from sight until the only hint of his presence was the occasional leaf that came flying out of the crater into which he had disappeared.

Until today these rust-colored sparrows had been silent, except for an occasional chip, but this afternoon I heard several singing. They are not in full voice yet, but already their slurred, lazy notes have that rich quality that sets them apart.

March 16—Jack had been watching several snipe feeding in Bolig's meadow near the river yesterday, so we drove up there this morning to watch them and try for some pictures. None were in sight when we parked beside the water-filled ditch where he

had seen them previously, but he assured me that "you can't see them until they move." How right he was. After about five minutes a snipe suddenly materialized out of the short-cropped grass within ten feet of the car and began feeding. Each time he stopped he nearly disappeared, so perfect was his camouflage. As we tried to focus on him two more flushed from the same spot, and all three flew to a puddle in the middle of the meadow. For a half hour we watched them scampering over the sod, probing for insects with rapid thrusts of their long, slender bills. At intervals they withdrew objects from the muddy ground, but we couldn't see what they had found.



Picking up the gunstock-mounted camera I decided to try a stalk. I circled through the gateway and eased toward them, but before I was close enough for a good picture they took to the air in typical zigzag flight, uttering their rasping alarm notes. They landed in a swampy spot among the cattails, but Jack flushed them and they returned to near their original location. Sneaking back to the car he backed it carefully and got some good closeups of one bird crouching along the lane.

March 17—Snipe aren't the only creatures to take advantage of the increasing insect activity this spring. Skunks have been in evidence also. The old orchard and field behind the house are peppered with their conical excavations.

March 22—Our local game protector brought in a female woodcock with a broken wing, which we trimmed and bound as best we could. Apparently she had flown into a wire near a well-known singing ground, and the folks who live nearby took care of her until he could take her off their hands. Surprisingly enough, she had paid little attention to her captors, and ate all the earthworms offered her. I doubt that she'll survive with her wing bone so badly broken, but at least she's taking her troubles in stride.

BEE LEAVING
SKUNK CABBAGE
FLOWERS



March 24—Wildlife can be entertaining no matter where it is encountered. This afternoon I was waiting in the car while my wife finished her shopping. A conspicuous movement in a backyard adjoining the parking lot caught my attention. It was a purple grackle, and in her bill she held a mass of tissue paper as big as a football! She obviously intended to use it as nesting material, but was she ever having trouble! She had somehow gotten into the center of a crab apple tree and couldn't get out. No matter

which route she took the paper snagged on the numerous spur-like twigs. At one time she tore off a large piece and had to retrieve it. She tried and tried until I actually pitied the poor bird. Then, quite unexpectedly, she lucked into an opening and burst into the open. Landing in a spruce tree across the street she was immediately set upon by another grackle. In the excitement she dropped a large piece of the paper, and hopped down the tree from limb to limb in pursuit of the tumbling nesting material. She finally caught up with it and returned to original perch, where she was again attacked by the other grackle. Again she dropped the piece of tissue, about a third of her load, but this time her attacker snatched it. Both birds took off in opposite directions with their prizes—each to her own uncompleted nest in neighborhood trees.

March 27—Cumming's swamp smelled and looked and sounded like spring today. The sun was warm beneath a cloudless sky, and miniature buds on the red maple and spicebush tinged their twigs with red and yellow. Red-wing males were singing everywhere, supplemented by the creaking notes of hundreds of rusty blackbirds. Several pairs of wood ducks threaded gracefully through tree trunks and reflections in the lower end of the swamp.

The shallow water and soggy leaves north of the causeway were thickly spiked with the pointed hoods of the skunk cabbage. Humans might not recognize them as flowers, but the bees do. As I examined one gaping hood a honeybee crawled out of its interior and paused for a moment on the edge of the spathe. The pollen baskets on its legs were bulging with the golden booty, and even its wings were thickly dusted with pollen. Here and there other bees were entering and leaving other hoods. The first flowers of spring (such as they are) were in bloom, and the word was out!



Don't Just Sit There . . .

DO SOMETHING!

By Les Rountree

"CAMPING! Big deal. Go to some mosquito-infested plot of real estate, sit in a tent or trailer for a week and then tell yourself and others that you had a good time. Not for me, brother!"

That isn't my brand of camping either, and I always feel sorry for those people who move into a campground, set up and then vegetate into a canvas lawn chair for the balance of their stay. Of course, we must admit that some persons go camping for *exactly* this kind of outing. If that's what you want to do on a camping trip, by all means go ahead and do it, particularly if that sort of activity or the lack of it refreshes you physically or mentally. After all, that's what camping is all about. For most others, however, especially if children are along, the sit-and-watch camping trip is not the thing to do.

The side trip technique is probably the most popular with large families. This can take many forms. For example, the selection of a camp headquarters near an historical site can offer a good combination of fun and

education. Camping near one of the many state or national wildlife sanctuaries can also offer some interesting diversions. If you're a boater, or your family enjoys swimming, the selection of a water bound location as a base of operations is a natural. Our more famous National Parks have been drawing millions of campers each year and will continue to do so. Of course, it's reached the point that reservations must be made at some of the more popular ones like Yellowstone and Yosemite many months in advance.

Lengthy trips to faraway places require some serious advance planning, and right now is the time to do it, if you haven't already. Even for the in-state trip, some planning should be done now. The last-minute camporee sometimes comes off well but a well organized one comes off better. You old hands know what you're going to do when you get there and so do the special purpose campers who are headed for a hunting or fishing trip. But what about the first- or second-time campers who quickly discover that there is a lot of available time



A CAMERA can add countless hours of pleasure to camping trips. The 35mm size is most convenient to carry, can take excellent photos.

between meals. If you don't lean toward complete inactivity, it's hard to sit and contemplate your fingernails for hours everyday. One of the most popular diversions while camping is just plain walking or, if you prefer, hiking. Many of our private campgrounds and most of Pennsylvania's state parks and rest areas have marked hiking trails. In addition to these, many unpaved roads and emergency fire roads offer good hiking paths. Walking just for the health benefits and change of scenery is worthwhile. Counting the different birds or mammals that you see are extra games that you can play. A hip-pocket field guide covering common birds, mammals and/or plants can be carried to make the trip educational as well.

If you do plan to do some walking, and by this I mean more than a mile a day, you'll have to include a good pair of shoes. Many campers try to get by with any old half worn-out pair

of dress shoes for slumming around the tent. A pair of soft moccasins or tennis shoes are fine for this sort of thing, too, but for serious or semi-serious walking, such footgear won't do. Low quarter shoes were designed for pavement and sidewalks, not for the boondocks. Even the most casual walk down a fairly open fire trail will fill both shoes with all sorts of leaves, grass, twigs, and assorted debris. Your socks will be covered at the ankle with nettles, burdocks and other annoying things. A pair of six-inch leather shoes with rubber or composition soles provides good protection, and if used only for camping trips will last for years. The popular vibram-type sole is an excellent choice for rough going and will work particularly well for going up or down steep grades. One caution: for home use, the vibram sole is not popular with the housewife after a wet day afield. Each sole is guaranteed to drag a pound of pure mud into the kitchen. If you're a hunter and used to wearing eight-inch field boots, go ahead and use them for summer hiking. They won't be as hot as you think. In fact, I'm convinced that leather shoes are cooler than the fabric jobs in the summer. At least my feet seem to think so.

The Compass

When you do take off on that side trip hike, unless you consider yourself a real Davy Crockett type or don't know how to use a compass—stick to well-marked trails.

Now about the compass. Here's a piece of equipment that many outdoorsmen buy but few know how to use. Come on, now, be honest—do you really know how to use one of the



darned things? Just learning the fundamentals can be an interesting accomplishment on your next camping trip. Get one of the easy to read, luminous face models and a set of instructions. Learn how to take an original bearing and a back azimuth and you'll have more confidence in your pathfinding ability than you ever thought possible. Start out on short trips through the uncharted wilderness (within 100 yards of camp) and then gradually lengthen the trips until you're sure enough of your compass reading to take off cross-country. There's a lot of self-satisfaction connected with knowing how to use a compass and your kids will think you're a first class hero.

Forest Sounds

Identifying birds and mammals and forest sounds can be a far more interesting pastime while on a camping trip than you would guess. It's surprising to discover how few ardent hunters know anything about the non-game species. They have difficulty deciding if that sound was a blue jay or a squirrel. I think I'm on safe ground to say this because, until just recently, all birds smaller than a grouse (with the exception of quail or woodcock) were either robins, sparrows or "black-birds," as far as I was concerned. About five years ago, a brief lecture by Ned Smith (a GAME NEWS contributor since Old Sport was just a pup) made me a bird watcher of sorts.

Ned and I were walking through a particularly unproductive stretch of grouse cover and I made some comment like "Nothing could live in this place—I haven't seen a feather for a mile." "Not so," says Ned, "your dial is tuned to grouse only. You're just like 90 percent of the rest of the woods trompers. You might be a pretty good hunter and get your share of game, but you're missing out on half the fun of being outdoors. You're just not aware of what's going on around you. For example, flitting around in the



ALL CAMPERS talk about compasses, but many know little about them. Why not make a study of them on your next trip? It might save your life someday.

brush just ahead of us are about fifteen juncos, a whitewing cross bill and a pair of purple finches."

My pride as a latterday Daniel Boone was neatly impaled and he further insulted me by pointing out another ten species of birds on the way back to the car. He was right. I didn't know a tufted titmouse from a barn swallow—but I do now and I have to admit it's fun. I'm sure that you will too. The only two pieces of equipment that you really need are your eyes and a good field book. Roger Tory Peterson's *Field Guide to North American Birds* is one of the best. If you really become serious about it, you'll want to get a pair of binoculars and a compact notebook to record your "sightings." Chances are, you won't become another Ned Smith, who can tell at 100 yards if a crow voted Republican or Democrat, but you will have a lot of fun and may acquire a local reputation as a bird expert.

You can also zero in on other creatures for "sight" collection purposes. Insects, mammals, reptiles and amphibians of all descriptions usually are more plentiful around campsites than most campground owners like to admit. Some of these creatures are not welcome at all times, but searching for them and cataloging them is educational not only for the kids but also for Dad and Mom as well. With the



GAMES LIKED BY THE family can fill the long hours on a rainy day—as can informal study of the region's animals, trees, shrubs, etc.

exception of some snakes and spiders, there's no danger involved in snooping around the Pennsylvania woods. In fact, perhaps it's a good thing that there are a few dangers involved. It makes the game more interesting and places some responsibility on the nature watcher. With a little thought, he soon rationalizes that he should indeed learn to identify the poisonous snakes, spiders and mushrooms.

Hey — mushrooms! Now there's something I'm going to do this year—and that's to learn more about them. Those knowledgeable in mushroomology tell me many delicious varieties are available in Pennsylvania. Three of these, I can identify—the meadow, the puffball and the morel. The first two are quite common, the last is not. Do not—I repeat, *do not* eat any wild mushroom until you have checked it out with someone who really knows his fungi. When you do finally get around to eating and enjoying mushrooms that you have gathered yourself, it's a great feeling of accomplishment. Your self-confidence takes a giant stride forward. In my case, it's probably my stomach that wants to learn more about mushrooms. I can

eat 'em with any kind of meat, in scrambled eggs or cut up raw in salad. I love the darned things and if I can find out more about them (and I intend to), I hope to eat them even more often than I do now.

Take a Camera

Photography plays a big part in the outdoor adventures of many families. But surprisingly enough, the percentage of camera carrying campers is quite small. Reliving the fun of a camping trip provides good conversation but it's a lot more fun when there are pictures to supplement the talk. They can take the form of either color or black and white photos and, if you have the equipment, color slides. The latter are much more interesting and with today's nearly automatic cameras, you can be the rankest amateur and still come up with some mighty fine pictures. Cameras can be purchased today for twenty bucks that take care of exposure, lens opening and film advance, automatically. Another ten dollars' worth of film and you can document the entire trip from start to finish. Without pictures, it's easy to forget what that last campsite looked like or that Billy had a hole in his sneakers.

You might discover after a few sessions with an economy outfit that you are more than a bit interested in outdoor photography and decide to purchase a better rig. The cost naturally will be higher, but the rewards will be greater. There are at least a dozen single lens reflex cameras on the market today that will take pictures under almost any light conditions. The only type to consider, I feel, is the automatic light metering jobs that really take the guesswork out of f-stop settings. If you really decide to get involved, this type of camera will handle a wide assortment of lenses and attachments.

A tape recorder is another fun device that can provide a lot of happy hours during the camping trip and

after. Recording nighttime forest sounds and general camping noises sort of silly, but it can provide some interesting background for a color slide show or a home movie production. A friend of mine shot up about three rolls of Super Eight movie film showing the simple act of his wife fixing breakfast over a campfire. The filming wasn't Hollywood quality, but it wasn't bad either. The thing that really made it was the insertion of sound effects provided by an inexpensive tape recorder. As the breakfast unfolded on the screen, the sounds of crackling flames and frying bacon and the other clinking, clanking sounds of a camp breakfast made the performance very realistic and fun to watch. Another reel of a nighttime campfire scene with cricket chirpings in the background really made you feel as if you were there.

Outdoor Games

Every family has a preference for certain outdoor games. Be sure to pack at least one with you. It might be horseshoes, badminton, darts or plain old catch. Just make sure you take the right equipment along. Indoor games are valuable too, especially if there are very young children along. A rainy day that must be spent in the tent can be ninety-seven hours long if you just sit there and look out at the sky. If you enjoy cards or board games like Monopoly, fine, that will last for awhile. Better yet, take along some rain gear and enjoy a walk in the rain. Sound nutty? Well, it just may be, but in the summertime, if it's not raining pitchforks and hammer handles, a lightweight slicker suit will keep you dry enough. If you maintain a pretty good pace, you won't become chilled and your chances of



EXPLORING WATERWAYS adjoining your campsite can double your outdoor fun by opening up regions not normally approached on foot.

catching a cold are no greater than they are at any other time. Even if a walk in the rain doesn't sound like something you'd like to do, try to get out soon after the rain stops. It's a period of great activity for wildlife and you'll see some creatures that you'll not find at other times. Spotted salamanders are frequently out by the hundreds after a summer rain. And if the sun happens to crack through immediately following a rain, well, it's just about the cleanest, brightest time of all. It's a pleasure to be there.

Increase in Pennsylvania Hunters

In 1913, Pennsylvania had 305,028 licensed resident hunters and no non-resident hunters. In 1967, the state had 988,463 resident hunters and 72,535 nonresidents.



COLUMNIST'S SON, DARREL, tags the buck he downed during snowstorm last season. His 243 Winchester was properly zeroed in for the job and performed perfectly.

Something New . . .

OR IS IT?

By Don Lewis

Photos by Helen Lewis

"HOW DO I go about trading a two-year-old Christmas present without getting into trouble with my family?" a first-time customer to my shop asked. "When I received this rifle, I thought I was set for life as far as a powerful hunting rifle goes, but I sure had it proved to me this afternoon that the famous 30-06 ought to be put to pasture. What really has me upset is that the family could have bought me one of the new 308s."

"That's a pretty strong statement," I said.

"Facts are facts," the customer reminded me. "Understand, I'm not an expert or dyed-in-the-wool hunter, but

I saw with my own eyes that this caliber is not for today's hunting. Man, if I'd just had a 308 instead of an '06."

"Well, if you bring me up to date on why you want to get rid of a fine 30-06, I'll see if I can detect what went wrong."

"Nothing went wrong," he replied irritably. "I simply plugged a buck deer three times, and he never flinched. Those powerful 220-grain '06 slugs never fazed the buck. In fact, I think they added vitality."

"Let's not get carried away," I cut in good-naturedly. "How far were you shooting?"

"I'd say about 225 yards. I stepped

245 long steps to where the buck crossed. Allowing for the rolling terrain, I'd guess over 200 yards. It was a broadside target, and the buck was just loping on the first two shots. The second shot must have hit him pretty hard. He stopped and put his head down. I took a long aim and fired, but he walked right into the woods. It looked as if he was eating, and I was so disgusted I didn't even shoot again."

"How do you know you hit the deer every shot? That's a long way, if I know anything about shooting."

"I never saw the deer again, but at that range it seems pretty unlikely I would miss. I fired expert with every rifle in the service, and we shot at 300 and 500 yards. I'm sure I hit the deer."

"I don't know about that. Six hundred feet is a long way to guide a bullet at a moving target. What range did you have the rifle sighted in for? Maybe it wasn't zeroed in for a shot like that."

"No, I had no problem there. My son-in-law and I mounted the scope, and he uses a special short range formula. He's pretty good—it took just two shots to sight it in."

"Did you shoot the rifle before you took it hunting?"

Good on Cans

"I smacked a gallon antifreeze can twice at nearly 50 yards. I'm telling you there's nothing wrong with the scope or the shooting. The culprit is the ol' 30-06—she ain't all she's cracked up to be. Next year, I'll be carrying a 308."

"And all your problems will be solved, and success will never depart from you," I cut in jokingly.



FOUR SHOTS well inside a three-inch circle prove to shooter that his rifle is "on"—and that's half the battle when a big buck breaks cover.

"You couldn't have said it better," was his thoughtful answer.

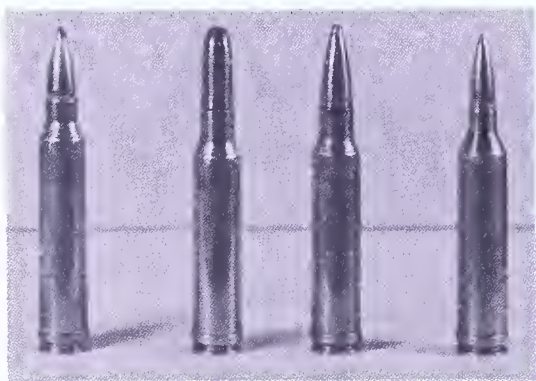
I could see it was going to take some convincing to show this man how wrong he was in thinking the 308 was superior to the '06. I got out several handloading manuals and asked him to sit tight for a minute while I cleared up a few points.

"I came to talk about buying another rifle, but if you think you have something worth saying, I'll listen."

"We crossed the first barrier when you said that, my friend," I answered. "Now, I hope you won't get offended, but I don't think you touched that deer. I believe you shot low or else behind it. Do you really believe a deer could have three heavy bullets strike it and not show some sign of being hit? To connect every time the length of two football fields is not an everyday achievement, and even though your third shot was a standing one doesn't make it easy. Unless you knew exactly where your rifle put its bullets at 200 yards, I can see plenty of reasons that would cause you to miss."

"I can't buy that," he said. "You're forgetting that my rifle had been sighted in and actually set for 200 yards."

"You didn't actually fire the rifle at any long distance to find out where it was hitting," I reminded him. "I have little faith in zeroing in rifles with bore devices, and I've found the 25-yard setup is very sensitive and is prone to all kinds of errors in elevation and windage. I've shot literally hundreds of rifles, and I've found that no two act alike. I also use a mechanical device to help me make a preliminary alignment of the sights, but the rifle must go on the benchrest and be fired until I'm satisfied it's putting the



HIGH-VELOCITY 7mm Remington and 264 Winchester Magnums flank 338 Magnum loaded with round-nose and spitzer bullets. Sharp-nose bullets are best at long range, round nose is good in brush.

bullets where the owner wants them. I'm not trying to belittle your efforts, but I can't agree that hitting a large tin can proves anything. If you had your rifle with. . . ."

"I have it in the car, and there are two boxes of shells so you'll have enough to get convinced," was his reply as he walked out. I could see he was angry at what he thought was criticism of his son-in-law. But facts are facts, and I knew from a good many years of benchrest work that you can't zero in a rifle with a couple of haphazard shots. I also knew the 30-06 would shoot with the best of them, and I felt the trouble was either in the adjustment of the sights or the shooting.

"Maybe we wasted our time and should have had you do the work, but

it's very possible that after you've blasted away a box or two of ammo, you might have to eat a lot of that preachin' you did," he said as he came in.

I opened the shooting window and flipped on the range lights. "You watch through the spotting scope, and you'll be able to see just where each bullet hits," I told him as I pushed the target-changing button on my bench. "You can do the shooting if you like," I added.

"Nope, you're the man who knows where the bullets went when you weren't even there, so go ahead and fire. I'll be all eyes."

"Cover your ears and watch," I told him, and took aim at the 100-yard target.

"You missed!" he exclaimed gleefully after the first shot. "Bein' so good, I don't know how you'll explain that, but there's not a hole anywhere on the target." The second shot still left the large target paper blank, and my customer's remarks became more pointed. On my 50-yard range, I had tacked two new large targets earlier in the day. I shot at that distance and found just what I expected. The bullet struck more than eight inches low. At the 100-yard range, the bullet was hitting the grass in front of my target. I had to fire several more to convince the man; he believed I was shooting off on purpose.

Finally Zeroed

I suggested that he should do the shooting, but when he refused again, I began to make the necessary scope adjustments to get the bullet in the bullseye. I didn't do it in two or even a dozen shots, but when I stopped shooting the rifle was putting its bullets several inches above the aiming point at 100 yards. My customer stared through the spotting scope in silence.

"I suppose you think I'm pretty ridiculous," he said hesitantly. "I did sort of overdo it, and now I know for a certainty that my son-in-law and I



IN AUTHOR'S VIEW, HUNTING pits man's limited woodland skill against the cunning of nature's wildlife. The rifle itself is relatively unimportant.

did just waste our time. It's apparent that we really goofed. I know that I lost a nice buck over our bungled job."

"No need to feel like that," I answered. "It could have been a psychological thing with you; you wanted a 308, and you were looking for reason to condemn the 30-06."

"Well, the 308 is a much better caliber, isn't it?"

"Not exactly," I said, and handed him a ballistic chart. "For one thing, the same bullets that are used in the 30-06 are used in the 308. Actually, the 30-06 will outperform the 308."

"I find that hard to believe," he replied earnestly. "Why would they bring a new cartridge out if it won't do a better job than the older calibers?"

"It's not so much that a given 30-caliber bullet is supposed to do more in the 308," I said. "In fact, it can't do as much as in a maximum-loaded 30-06. The '06 case is bigger, and therefore can handle more powder, which means it can give a particular bullet the same velocity as the 308 but

at lower chamber pressure, or higher velocity at the same pressure. The 308 was designed as a military cartridge. Even with its comparatively short length, it had enough powder capacity to deliver the ballistics the armed forces wanted, while at the same time its decreased bulk and weight were important logistic factors. There might not be a whale of a saving with only one cartridge, but when billions are concerned, you can see what it adds up to. Of course, a country's military cartridge is always adapted to sporting use, and this was done with the 308. Its short length made it a natural for the lever or autoloading actions, as well as the short bolt actions that have become popular. But if top velocity is wanted, the '06 can give you more than the 308."

Trade?

"I'll be darned," he exclaimed. "Do you think I would be wise to trade for a 308, then?"

"No, I don't. You have a fine rifle, and with some practice, you'll become

adept with it. I'm not condemning the 308. I know it has plenty of punch, good trajectory, and offers the hunter a short stroke action, but ballistically you would not be gaining by a trade."

"I believe what you say, and I'm ashamed of the way I acted. . . ."

In this jet age we live in, with every aspect of our thinking being changed, have we reached a point in our modern hunting where a complete new approach to calibers and power is needed? Car engines are faster and more powerful; a few flicks of a telephone dial takes you anywhere in the world, and a tiny three-pound camera sends photos from the moon. Does this indicate that the gun world should join the trend and discard the rifles of yesteryear for more powerful and supposedly more efficient outfits? I don't think it is necessary. The Biblical prophet Isaiah offered some of the best advice I know when he said, "Come, let us reason together," and I believe this philosophy could be applied to the turmoil over calibers and power that engulfs the world of guns and hunting.

Man vs. Game

I often wonder what some hunters want from a rifle. As I see it, the entire spectrum of hunting should be man versus game. In other words, man's limited woodland skill against the cunning of nature's wildlife animals. The main ingredients of hunting are man's battle against the wind, rain, and snow; his determination to stay on watch to the very end; his skill with whatever rifle he is using when game appears. These are the things that make hunting worthwhile, and the rifle, its power or caliber should not overshadow them. Naturally, the hunter should carry a rifle suitable for the type and size of game he is hunting, but to disregard the real values of hunting and rely solely on a powerful rifle just seems so wrong to me.

I'm not against new guns and new ideas, nor do I wish to sound critical

of those who think differently from me, but I will point out that not all that's new is better, and, in many cases, the new outfit with all its inflated ballistics fails; the end result is sheer disappointment. The hunter who has used a Model 94 Winchester successfully for years might find another type of rifle awkward and unpleasant. I might ask, "Why change?"

Too Much Paper Ballistics

Too much emphasis is placed on paper ballistics nowadays. After all, an increase of 200 fps in muzzle velocity or an additional 100 foot pounds of energy is no guarantee that you will be more successful. Even buying the most powerful magnum will not make you an instant success. Many new gun buyers think only in terms of sheer speed and power; this is not always the answer.

A good rifle, to me, is something that is a pleasure to shoot. When I get my rifle out for a few practice shots, I don't want to engage in a feat of bravery. I don't like the idea of worrying about getting my nose bashed in if I fail to hold the rifle just right on a quick shot. I want to become proficient with the rifle I will use next hunting season. I want to learn all I can about it, regardless of caliber. If I don't, it will be of little value to me.

Let's not forget that the very rifles and calibers that are being relegated to the ranks of the unwanted have a long history of success. I doubt if the modern big game animal is any tougher than its ancestors. Most of the trophy racks that decorate barber-shops, hardware stores and hotel lobbies were brought down by the 30-30, 270, 30-40 Krag and '06—even the slow, brush-busting 35 Remington. I mention the 35 simply because a friend of mine dropped 33 bucks and one bear with his 35. I doubt if he was aware that his rifle would someday be considered inadequate for deer hunting; I wonder if it is. . . .

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COVER PAINTING BY JAMES LANDERBERGER

Whistling swans are not common in Pennsylvania, but in recent years large numbers of them have been seen in the upper Susquehanna region, as they passed through on their spring migration. This impressive bird reaches a length of over four feet and a wingspread of seven feet. The adult's plumage is pure white, while the young are sometimes pale gray. To become airborne, the whistling swan runs on the water surface, flapping its wings and beating the water with its feet until it has enough speed for the launch. Once in the air, it is a powerful flyer, capable of speeds up to 90 mph. Whistling swans are completely protected by federal and state laws.

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Welcome

ONE WEEK FROM TODAY, as this is written, the twenty-five trainees of the thirteenth Student Officer Class will be graduated from the Ross Leffler School of Conservation. This is an important day for them, an important day for the Game Commission, and an important day for the sportsmen of Pennsylvania. Immediately after graduation, these new Game Protectors will be assigned to districts throughout the state. There they will take on the same duties and responsibilities already carried out by veteran field officers. All of us will benefit from their work.

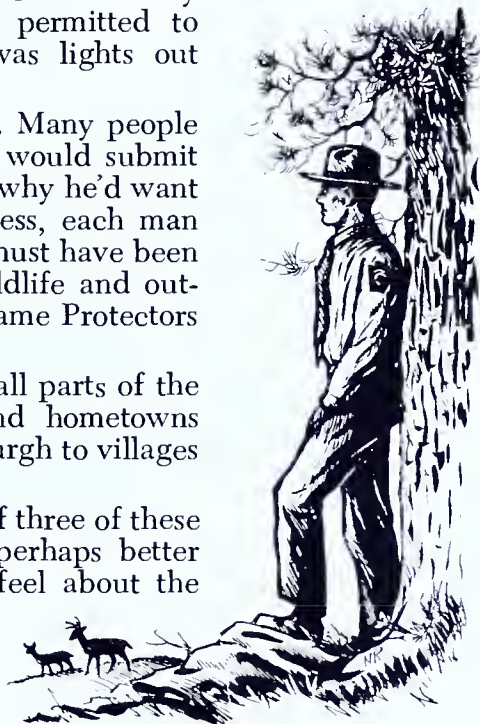
These men are well prepared for their positions. Of the several hundred Pennsylvanians who submitted applications when it was announced that a new class was being formed, these were the top twenty-five to emerge from a rigorous series of written, oral and physical examinations. Those examinations were only the preliminaries to their actual training. That began last March, at the Game Commission's school near Brockway. There, in almost military style, these men took part in daily physical training programs and spent up to eight hours a day in classwork. Three evenings a week they had two hours of classes. They studied wildlife management, public relations, game and fish laws, legal procedures, animal, bird and plant identification, land management practices, etc. Their instructors were specialists in each field, including personnel from the Game and Fish Commissions, State Police, the FBI and other police agencies, Pennsylvania State University, etc. Several hours each week were spent in improving the school grounds, and all trainees took part in a sports program involving teams from neighboring towns as well as intra-group competition. Uniforms were worn at all times and there were daily inspections. One night a week they were permitted to go to town until midnight; otherwise it was lights out at 10:30.

All of this made for a pretty full schedule. Many people will find it hard to understand why anyone would submit himself to eleven months of such training, or why he'd want to become a Game Protector at all. Doubtless, each man had his own reasons, but a certain basic one must have been shared by all: respect for Pennsylvania's wildlife and outdoors. Everyone gives lip service to these; Game Protectors dedicate their lives to them.

These twenty-five new officers come from all parts of the state—nineteen counties are represented and hometowns range from cities like Philadelphia and Pittsburgh to villages like Cogan Station, Orwin and Mattawana.

Other members of the immediate families of three of these officers are Game Protectors, which shows perhaps better than anything else how its own personnel feel about the Game Commission.

It's not easy to be a Game Protector. But it is worthwhile. And we're proud to have these twenty-five with us.—*Bob Bell*





The Four-Century Story of . . .

AN OLD WHITE OAK

By William C. Grimm

MANY YEARS AGO, while hiking along a country road in southwestern Pennsylvania, I noticed the stump of an old white oak. Somehow it intrigued me. I stretched myself across its four-foot breadth and began counting the rings which tell a tree's age. I counted four hundred and still had more to do. Then I began to think about the many historical events that had taken place during the lifetime of the tree. I imagined that I saw the great forest in which the little acorn sprouted so long ago. I had visions of the Indians who dwelt there, of the pioneer settlers, of the wildlife that passed beneath its branches and now were gone. This story is the one that tree might have told. . . .

Part One

ON A FROSTY fall morning, about the year 1500, a blue jay flew to a little opening in the forest. In its bill it carried a white oak acorn. The jay lit on the ground, took a few hops, then laid the acorn down. With its bill it made a small hole in the soft earth, placed the acorn in the hole, and hastily covered it. Then the bird flew off into the forest.

The jay had not intentionally planted a tree. All morning it had been busy gathering acorns and burying them about the forest. Like the squirrels, the jays were always busy gathering acorns and other nuts in the fall. They hid them in many places about the forest, and often buried them in the ground or beneath the fallen leaves. In winter, when food was often scarce, they would dig up their hidden stores and eat them.

Not long afterward, the acorn's shell split open at the tip. Out of the opening came a tiny sprout. Soon it was covered with fallen leaves and then a blanket of snow. All winter long the little plant within the acorn rested. Finally, the sun grew warmer and the blanket of snow melted. The jay never came back to dig up the acorn and eat it. Many of the acorns and other nuts the squirrels and jays buried each fall were never dug up and eaten. This was a way the oaks and other nut-bearing trees managed to get their seeds scattered throughout the forest.

Water from the melting snow and the

spring rains trickled down into the earth about the acorn, and life within it began to stir. The little sprout at its tip grew longer. It turned downward into the earth and became a root. Soon another sprout appeared. It grew upward into the sunlight and air, and before long it became a little stem with a few leaves.

It was mid-June when the little oak seedling met its first peril. Nearby on a bed of fallen leaves lay a pair of tiny fawn deer. Their rusty coats were spotted with white which blended perfectly with the dappling of sunshine on their leafy bed. Unless they moved they were scarcely noticeable, and the only motion they made was that of their breathing. The pair had been born but a few days before and their legs were so wobbly they were content to lie still. Their mother was always nearby. Every now and then she came to nurse them or lick them with her tongue.

In midmorning the doe was alerted by a movement at the edge of the little opening. She watched it intently. Then a long form slithered through the bed of ferns and emerged into the open. The snake was nearly five feet in length. Its heavy scale-covered body was a dirty yellow banded with blackish-brown, and its stubby tail ended in a series of horny rings which formed a rattle. From its flattened triangular head stared evil-looking eyes whose pupils were narrow slits, and a forked tongue flicked out of its apparently closed mouth at intervals. It crawled slowly in the direction



BY FALL THE white oak's acorns were fully grown and ripe. They separated from their bowl-shaped, scaly-covered cups and tumbled to the ground. . . .

of the fawns. Instinctively the doe snorted and moved toward the unsuspecting serpent.

The big timber rattlesnake was in no great hurry. Only shortly before it had dined on a squirrel which had blundered within striking distance. There was a distinct bulge in the snake's body as it slowly crawled across the sunny opening. The doe charged and the snake suddenly drew itself up for defense, its rattle buzzing a warning. She carefully circled the rattler, snorting and pawing at the ground. Each time the reptile struck at her she dodged. She kept circling and making feints, enticing the snake to strike again and again, futilely, until it seemed to be getting weary. Then, in a flash, she leaped upward and landed on its body with all four of her sharp hoofs. Again and again the doe leaped on the thrashing snake until it was cut into ribbons of bloody flesh and its head was crushed. Then she calmly walked over to her trembling fawns and licked them.

During that battle between the doe and the rattlesnake, the little oak seedling narrowly escaped being crushed or uprooted. Several times the doe's hoofs missed it by only an inch or two. The ground for several yards about the big snake's quivering body was torn up. Plants had been ripped from the earth and were scattered about in fragments, but by some miracle the little seedling escaped unscathed.

All summer the seedling's few green leaves used the energy of the sunlight to make food. It needed food to live and to grow.

But some of the food the leaves made was stored away as starch in its little stem and roots. Before its new leaves would appear the next spring, it would need the stored food in order to live and grow again. Long before the end of summer it prepared for the winter and the spring which would follow. A small bud had been formed at the tip of its stem. Other buds were formed just above the place where its leaves were attached to the stem. With the coming of fall the green color of the little oak's leaves faded. They slowly turned from green to red, then finally to brown. One by one they broke away from the stem and fell to the ground, leaving behind little scars which were covered with a thin layer of waterproof cork. The seedling had finished its work for the summer and was ready for a long winter's rest.

AT THE END of its first year the stem of the oak seedling was a mere few inches tall. It was a very slender cylinder of wood. In its center was a strand of pith, somewhat softer than the wood, which ran the length of the stem. On the outside it was covered with a thin skin-like layer of bark no thicker than a coat of paint. And between the bark and the wood was an even thinner layer of living cells called the cambium.

When spring came again, the buds on the seedling's stem began to swell. From the one at its tip came a shoot with tiny leaves, and as it grew upward the stem of the little oak became taller. Other leafy shoots pushed out of buds along its stem. They grew into branches. For several weeks after the buds first opened, the little oak grew quite rapidly. The cells of the cambium began to divide and form new cells. Those on the outside of the cambium became new bark

William C. Grimm, author of "The Four-Century Story of an Old White Oak," which will appear in three parts in *GAME NEWS*, is particularly well qualified to write on such a subject. He is a noted botanist and the author of three acclaimed books, "The Book of Trees," "Recognizing Native Shrubs," and "Recognizing Wild Plants." This background, plus a lifetime of interest in Pennsylvania history, has produced a story which we feel will interest all of our readers.

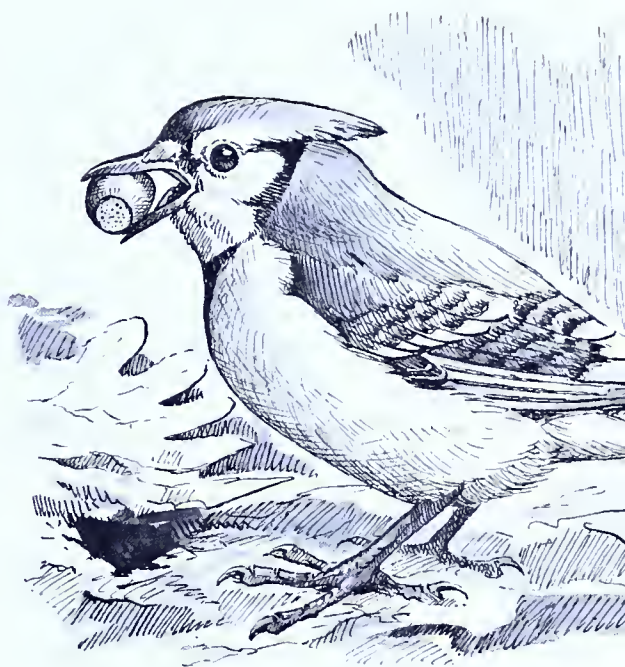
cells, while those formed inside became new wood cells. Before the end of summer a layer of new wood completely covered the older wood of the seedling's stem. Now the little oak's stem was not only taller but thicker, too. It was about twice as thick as it had been the year before. Its bark was a bit thicker, too, but the new bark was not nearly as thick as the new layer of wood.

Year after year the oak continued to grow. It became a bit taller, and its branches grew longer, as leafy shoots pushed out of the tip buds each spring. With each passing year its stem and branches grew in thickness, too, for each year the cambium formed a new layer of wood over that formed the year before. When a cut is made through the trunk or a branch of a tree, these layers of wood appear as rings. Each ring represents the growth made during a year, so we call them annual rings. By reading the story told by these rings we can learn much about the past history of a tree. Not only can we tell its age but also when its growth was rapid or when it was slow. We can even learn much about what the weather was like in the past.

As the oak grew larger the older wood nearest the center of its trunk and branches began to die. In time most of the wood in its interior became dead wood. It turned darker in color as waste materials were deposited in the wood cells. Older trees have but a narrow band of living wood beneath the bark which is called sapwood. It is through this living wood that water rises from the roots to the leaves of a tree. But the older dead wood, which is called heartwood, is not useless. It gives the trunk and branches strength. A tree with a hollow trunk may live for a long time, but it may be snapped off by a strong wind.

BEFORE many years passed the bark of the oak's trunk began to be too tight. It started to crack. Each year as the cambium formed new bark, the older bark on the outside of the trunk and branches died. It became ashy gray in color and gradually broke into scaly blocks. Although it was no longer living, this outer bark had an important service to perform. It protected the living bark and the cambium beneath it from injury. Through the living inner bark the sap containing food made by the leaves passes downward to every part of the tree.

In time the oak grew to be a sturdy young tree. It had little competition in the opening where it grew. There were a few shrubs such as blueberries and mountain laurel, but



A BLUE JAY carried a white oak acorn in its bill. After making a hole in the soft earth, it placed the acorn in the hole, covered it and flew away.

for most part the other plants died back to the ground each fall. Several times an aspen or maple seedling began to grow, but they were nipped off by rabbits or deer during their first or second winter. Once or twice the young oak had some bark rubbed off its trunk by buck deer polishing their antlers. One day a monstrous male black bear chose the oak's trunk for a signpost. He reared up on his hind legs and, reaching as high as he could, raked it with his powerful claws. They tore deeply into its bark and the scars of the gashes were visible for several years.

By the time it was fifty years old the oak's trunk had a diameter of a foot or more, and it stood about fifty feet tall. Each spring when its tiny coral pink leaves appeared, real flowers appeared on its smallest branches or twigs. From some of the buds came tiny flowers strung like beads on short dangling threads. These were the stamen-bearing flowers. For a few days they sent forth puffs of dusty yellow pollen on every breeze, then they dried up and fell to the ground. But there were flowers of another kind on the new leafy shoots. These were so small they could hardly be noticed, and they bore the pistils. After some dusty pollen was caught on their feathery stigmas, these flowers de-

veloped into acorns. Some of these eventually would become oaks.

By fall the white oak's acorns were fully grown and ripe. Then they separated from their bowl-shaped, scaly-covered cups and tumbled to the ground. There they spread a feast for the wild creatures of the forest. Squirrels and jays were sure to be present. Wild turkeys, deer, and even the big lumbering black bears were fond of them, too. And comical little chipmunks stuffed their cheek pouches so full they looked as if they had the mumps.

FOR HUNDREDS of miles in every direction, the white oak was surrounded by forest. It was a magnificent forest of often huge trees, the shaft-like trunks sometimes reaching fifty to a hundred feet above the ground without a limb. The ground beneath them was criss-crossed with the moldering trunks of other fallen giants, and carpeted with mosses, ferns and numerous kinds of beautiful flowers. Many of the trees—oaks, hickories, walnuts, birches, maples, beeches and chestnuts—shed their leaves each fall. But there were places, too, where evergreen trees such as hemlocks, pines, spruces and firs grew so close together that the sunlight rarely penetrated to the ground.

The white oak grew in a valley through which flowed a fine stream, a stream fed by a multitude of springs which bubbled out of the forest-covered hills. Its water was clear and sparkling, full of fish and other aquatic life. Even when the heaviest rains fell, or the winter snows melted, it was never muddy. Water from the rains and melting snows was soaked up by a deep carpet of spongy humus which covered the forest floor. It seeped deeply into the ground instead of running off the surface. Throughout the year, even during the dry summers, this water fed the springs; and they, in turn, kept the stream flowing.

The forest was a delicately balanced community in which dwelt an amazing variety of living things. There were big animals like the wapiti or elk, the white-tailed deer and the black bear. But other members of the community were very small, much too small to be seen with the unaided eye. Yet large or small, each member of the community had its place in nature's plan. Each in some way influenced the lives and welfare of the other plants and animals.

Only the plants with green leaves were able to trap the sun's energy and to lock it up in the form of food. So every animal

that lived in the forest depended upon its green plants for its food. Some of the forest animals like the deer, the rabbits, and small rodents fed upon the plants or their fruits and seeds. Too many of these plant-eating animals would damage or even destroy the plant life. But other species of wildlife such as the shrews, weasels, bobcats, hawks and owls were meat-eaters. They preyed upon the plant-eating animals of the forest and kept their numbers within safe bounds. At the same time they kept them alert and fit, for the unwary and the weak were always the easiest to catch.

Like every other living thing, the oak tree had its enemies. Any wound in its bark invited the entrance of spores of fungi which might cause its wood to decay. There were times when leaf-eating insects threatened to devour all its leaves; but insect-eating birds such as warblers and vireos usually prevented them from doing serious harm. Woodpeckers, with their chisel-like bills and barbed tongues, dug out and ate the larvae of other insects beneath its bark.

A well-beaten trail led through the valley where the oak grew. It was made by herds of wapiti or elk. For ages these great beasts of the forest had plodded along this trail. It led, perhaps, to some distant salt lick. Packs of hungry timber wolves lurked along the trail, watching the movements of the herds and awaiting their chances to make a kill. Here, too, slunk the big, muscular, long-tailed, tawny cat called the panther or puma. Only wolves and panthers were large and powerful enough to tackle such a large prey as the elk and the bison.

DURING their spring and fall migrations, a flood of birds filled the forest. Wild geese flew in big V's high above the treetops, while swans formed wavering white wedges in the blue sky. Wandering groups of little green parrots, with yellow heads and bright-orange faces, sometimes added a touch of tropical splendor. But in numbers nothing compared with the passenger pigeons. Countless millions of them often covered the sky in vast clouds, dimming the noonday sun like an eclipse. Hour after hour they passed over in seemingly endless numbers, their droppings falling to the earth like snow. Frequently they stopped to feed on acorns, beechnuts and chestnuts. When they roosted in the forest at night, trees for many miles around were laden with the birds.

Every fall the forest floor received a new carpet of fallen leaves. Every now and then



ONCE OR TWICE THE YOUNG OAK had bark rubbed off its trunk by buck deer polishing their antlers.

even one of the giant trees toppled to the ground. In time, one might think, the forest would be replaced by a vast rubbish heap, choked with the remains of living things which had died. If this were to happen, life could no longer exist there. It did not happen because bacteria, fungi, worms and other small living things used the dead material as food. They caused it to decay, gradually converting it into the thick carpet of humus which covered the forest floor. As the remains of the dead plants and animals were returned again to the earth, substances were released which new living things needed in order to live and grow. There had always been a constant overturning of life in the forest, but it would not have been possible without the services of some of the microscopically small members of the forest community.

BY THE TIME the oak was a century and a half old, it had grown to be quite a big tree. It was nearly eighty feet tall and its trunk was more than three feet in diameter.

Its stout branches had a spread almost equal to its height, and it was firmly anchored to the ground by its great roots. It had a vast network of roots which became smaller and smaller until they finally ended in hair-like rootlets. If all of its roots could have been placed end to end, they would have extended for several hundred miles.

It was about this time that the Indians established a village near the tree. They killed many of the surrounding trees by cutting a ring about each one's trunk, but they spared the big oak. These rings prevented the flow of sap down to the roots of the trees. The roots gradually starved and the trees died. Later, they felled most of the dead trees by building fires at their bases and chopping at the trunks with their stone axes. Sunlight flooded the new clearing and soon it was carpeted with grasses and other low plants. In the clearing the Indians built a number of bark-covered huts. One was much larger than the others. It was the village council house. Before very long the new village was bustling with activity; and

off to one side of its center stood the big oak.

The Indians were a simple and carefree people. They sang and laughed. Women gossiped and the children played. The women planted patches of corn, beans and squashes. They dug clay from the stream bank and made pottery; they tanned hides of wapiti and deer and made moccasins and other articles of clothing. They dried venison and wild fruits and smoked fish for use during the winters. And they ground corn and acorns into meal for making bread. It seemed the Indian women were always busy.

The young men of the village spent much of their time hunting and fishing. They made canoes, and they frequently sat in the shade of the oak, flaking arrow and spear points while the little boys eyed them with wide-eyed wonder. At times these young men put on war paint and went off to fight the warriors of other tribes. It was every Indian boy's ambition to be a great hunter and a fearless warrior.

The people of the village sometimes gath-

ered about a fire at night to sing and dance and listen to the age-old legends of their tribe. They were constantly reminded that the Great Spirit had trusted them with the beautiful and bountiful land they lived in. He had made them custodians of the forest and of all the wild creatures that dwelt within it. They could hunt the wild creatures of the forest in order that they might have food, and fur and hides to keep their bodies warm. But if they killed wantonly and took more than they needed, the wrath of the Great Spirit would descend upon them.

For about half a century the Indians lived contentedly in their village, but a day came when they decided to move again. They went a few miles down the stream and established a new village. Within a few years the bark houses in the old town collapsed and began to decay. Shrubs and then young trees of several kinds soon started to grow in the clearing. Before very many years passed it became a thrifty stand of young trees. . . .

(To be continued)



GOVERNOR RAYMOND P. SHAFER receives first set of the new, small size **Bird and Mammal Charts** from Executive Director **Glenn L. Bowers**. These charts, unframed, are available in sets of eight from the Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120. Full price, \$2.25 delivered.



THIS 20-LB. GOBBLER was taken by Jim Bach, Pittsburgh, while hunting with his brother Tom and Bill Hanbury in Warren County. DGP Don Parr examines bird.

A Report on . . .

Pennsylvania's First Spring Gobbler Season

By Jerry Wunz
PGC Wildlife Biologist

IN ITS TIME, the Game Commission has collected many wildlife management laurels, but few were such immediate successes as Pennsylvania's first spring gobbler season in May, 1968. It was one of those programs that made us glad we are professional game managers; and it was particularly gratifying to those who helped to promote and assure its successful conduct.

Naturally, the usual complaints from skeptics were heard when this new sport was proposed, but now we hear

only praise from those who actually tried spring hunting. Surprisingly, hunters who didn't bag a bird or even see one were satisfied simply to hear a gobbler sound off at daybreak. This vocal display by the tom turkey to let hens and, unintentionally, hunters know he's available is apparently the key to this sport's great appeal. Turkey hunters, particularly those disheartened after going through the previous fall season without so much as a glimpse of their elusive quarry, were amazed at the abundance of gobbling



U. S. Forest Service Photo

DESPITE FEARS OF SOME, very few nesting hens were disturbed by spring gobbler hunters.

birds that populated our prime turkey range in the spring.

Although enough gobblers were taken to make spring hunting mighty interesting, the harvest was often not the main measure of success. Just to hear sportsmen enthusiastically compare tales of gobblers heard or seen was indeed a refreshing experience. And to those hunters who had the added good fortune of calling one of these fanned-out monsters into range, the shooting was almost anti-climactic to this magnificent sight. This was quality hunting at its best.

The Game Commission was especially happy it turned out this way because it proved quality isn't necessarily lost in the process of providing recreation for increasing numbers of sportsmen; and also because the success of this experimental hunt could be credited largely to the hunters' attitude and behavior.

As you may recall, the Game Commission had done its part to assure success by exhaustive investigations before spring turkey hunting was recommended feasible for Pennsylvania. The experiences of other states which already had spring hunts enabled us to make predictions on the probable outcome of our own season. But to make sure we were on the right track,

our studies continued through and after the spring hunt. In all, we had five separate surveys in operation to determine hunting pressure, hunting success, hunter behavior and effects upon the turkey population.

The first of these was a count of hunters conducted over established routes throughout the turkey range by Game Commission and Allegheny National Forest biologists. The findings showed spring hunting pressure was less than half that occurring during any comparable day of the fall turkey season. Also, pressure was least in the vast northcentral turkey range and greatest in range nearest the heavily human populated regions of the state.

Much as we expected, 50 percent more hunters were counted on the last Saturday of the six-day season than on opening Monday. This initial season was opened on Monday purposely to avoid the possibility of excessive pressure that might have occurred on a Saturday opening.

The next survey was completed by you, the hunter, who found postal cards left on your car windshield or were given one directly by a Game

Spring Gobbler Season

May 3 through May 10 (no Sunday hunting). Only bearded turkeys are legal game. Shooting hours are one-half hour before Sunrise until 10 a.m., EDST. Hunters should be out of the woods by 11 a.m., EDST. Hunting shall be by calling only. The use of dogs, electronic callers or organized drives is prohibited. The use of bows and arrows and shotguns with shot no larger than No. 2 is permitted. The use of rifles and pistols is prohibited. Rifle-shotgun combinations may be used if ammunition is confined to shotgun shells; carrying or using single projectile ammunition is unlawful. Only one turkey may be taken per hunter per license year; killing or attempting to kill a second turkey during a single license year is illegal.

Protector. A good percentage of you took time to include your hunting results on the card, and we are grateful for the care taken to record this information accurately. As a result, an extremely high 99 percent of the data cards were usable in our analysis.

Computer processed, the cards revealed the average spring hunter spent two mornings afield, heard 3.3 gobblers and saw 1.4 turkeys. Twelve percent of the respondents reported bagging a turkey. Hunter success was greatest in the prime range of north-central Pennsylvania and least in the southeast section, where turkey range is limited and hunting pressure is highest.

Hunter Behavior Good

The third survey involved findings from the District Game Protectors throughout the Commonwealth's turkey range. They noted that hunter behavior was generally good. Reports of only six illegally killed hens were verified, and two of these were voluntarily turned in by hunters for payment of one-fourth penalty. Only 36 turkey nests were reported accidentally encountered by hunters. Of this total, most were known to have hatched successfully.

Game Protectors examined 275 gobblers and 2 legal bearded hens. Their counts and estimates total 1636 turkeys bagged in Pennsylvania's first spring season.

The results of the last two surveys weren't available until later in the year. One of these is the annual game bird reproduction census, or brood count, conducted by all Game Commission field personnel during the summer. In the case of turkeys, all sightings of hens and their broods of poults are counted and recorded. Brood counts have been carried on through a long period of years to establish a base line for normal or average reproduction to which each individual year's crop of young turkeys can be compared.



Photo by Earl Wise

HUNTING OUTSIDE OF Wellsboro, Tioga County, proved lucky for Harold Rider and Alvin Smith of Eagles Mere last May, as each bagged a gobbler.

The other survey is the annual winter census of turkeys on certain research study areas. This involves locating and counting the flocks by their tracks in the snow while they are concentrated on their winter range.

Obviously, these surveys were most important because they could determine if spring hunting had harmed the turkey population. If it had, regardless of the great sport provided, future spring hunts could not be justified.

The results, after the last brood reports were compiled and analyzed, and the winter census was completed, showed no evidence of harm to turkey reproduction by spring hunting. In fact, turkey populations had increased in some areas, even where spring hunting pressure had been greatest.

Because of the clean bill of health given to the 1968 spring hunt by these turkey population inventories, and also by the generally good behavior of the participating hunters, the Game Commission has set another season in May, 1969. We intend to scrutinize the effects of the second season just as closely as the first, but now with the experience of one season behind us, we can be even more confident of its outcome. Consequently, the 1969 season was increased to seven mornings by including a Saturday as opening day to provide more hunters an opportunity to enjoy this grand sport.

The 1968 spring hunt followed most of our predictions quite closely. But we did underestimate (to the tune of about 40 percent) the 1968 gobbler harvest simply because we did not fully appreciate the extraordinary skill of our Keystone hunters. They learned this new sport quickly.

Fortunately, the gobbler harvest is the one thing we can afford to under-

DURING SPRING SEASON, bearded gobblers often have a "breast sponge"—a layer of fat that serves as a nutritional reserve. This does not hurt the bird but should be removed before cooking.

Photo by Leonard Lee Rue, III



estimate in planning for a spring hunt. At least three times the 1600 surplus toms bagged in 1968 could be taken annually and scarcely be missed by the remainder of the turkey population.

We did overlook something important, however, when we forgot to explain that gobblers develop swelled chests in the spring, much like the swollen necks of buck deer during the fall rut. Thus, the "diseased" or "infected" gobblers that were reported invariably turned out to be healthy birds with a perfectly normal growth called the "breast sponge." This is a layer of gelatinous fat that forms beneath the breast skin of each male turkey each spring to serve as a nutritional reserve during the mating season. This does not harm the bird in any way, but should be removed before cooking.

Bragging-Size Trophies

On the positive side to the benefit of the hunter, this fat reserve also makes bragging-size trophies. Toms that weighed 18 pounds in the fall were pushing 20 pounds in the spring. We had reports of a few in the 25-pound category, but it takes a mighty big turkey to beat 20 pounds in the fall. This was a rather pleasant surprise to many hunters who, expecting turkeys to be skinny after a long winter, found they were plump and good eating, too, unless the trophy was an unusually old bird.

Now that Pennsylvania's first spring season is history, the "veteran" of the first hunt is looking forward to the next with considerable excitement and anticipation. But the beginner may be somewhat apprehensive, because spring hunting for gobblers is an entirely different sport than he's ever been exposed to. Consequently, his past experiences with other game, and even fall hunting for turkeys, might not be of much benefit. The best the novice can do is read up on the subject or pick the brain of a veteran.

Spring hunting methods were de-

scribed in detail in the May, 1968, **GAME NEWS**. The following is a brief recap.

First of all, calling gobblers is the name of the spring hunting game, so learn to use a turkey call. Most experienced hunters wear camouflage clothing. After locating a tom by listening for his gobbles, sneak up within 200 or 300 yards of his location. Then take special care in selecting a good hiding spot, such as a natural depression, where the turkey can't readily see your position. Now you are ready to call. Wait until the gobbler approaches close enough for a sure shot—less than 40 yards is recommended—aim carefully, and he's yours. At short range, under 30 yards, say, the vulnerable head-neck area is the best aiming point.

Above all, avoid any chance of killing an illegal, beardless hen. Besides the tom turkey's distinct beard and much larger size, there's no reason to mistake the white-crowned blue head on the gobbler's bright-red neck for the drab-headed hens. Remember that the future of spring gobbler hunting seasons depends upon how well you mind your hunting manners and, especially, how well you follow the spring hunting regulations. These regulations are necessary safeguards for the future of your sport.

Another spring hunting tip worth passing on to the beginner may help solve the frustrating problem of the reluctant tom that can't be lured with the hen yelp imitation, especially when he's with a harem of real hens. Try gobbling. Hunters who tried it last spring sometimes had toms come running with blood in their eyes to challenge the interloper. Seems like gobblers can't stand competition any more than a spring turkey hunter can.



Photo by Leonard Lee Rue, III

TO MANY HUNTERS, a wild turkey is the top trophy of a lifetime. Pennsylvania's spring gobbler season gives an extra opportunity for bagging one.

Speaking of competition, the bane of the spring hunter's success, we can expect it to increase with the popularity of this sport. There is a way to lower the odds, however, simply by applying this law: "Spring turkey hunting success is greatest where gobblers are most and hunters are least." So go north, young man, where there's plenty of elbow room and the turkeys aren't quite so call shy . . . yet.

Super Size

Trumpeter swans are the largest American birds in terms of weight, males sometimes reaching 30 pounds.



Twilight Astronaut

By George Bird Evans

Illustrations by Ned Smith

WE WERE driving up a back road at twilight of an early April evening. At a corner grown to hawthorns and a few small hemlocks I pulled to the side and cut the engine. As we lowered the windows we heard it—the song of the male woodcock somewhere in the jewel-blue sky. From another direction we heard a second, then a third. Three singing males in one area.

Between the flights the strange preliminary buzzing sound they make was less distinct than the flight song, but it helped us locate the birds' positions on the ground. We got out of the car and strained our eyes to try to see them as they took off but too little light remained. For a time there were those wonderful sounds up there until the early stars grew bright and the singing stopped.

We had never seen the woodcock's sky dance until our friend Larry Schwab took us to a singing ground one April evening in 1964. We parked on the edge of a stand of young pines near a small lake about half an hour after sunset.

Almost immediately Larry said, "That's it. Do you hear him?"

I heard a sound I'd heard on many spring evenings and had assumed was some kind of frog or insect.

"That's it again," Larry said. "He's not far in those pines there."

Most wildlife biologists use the term *peent* but that's not what the woodcock calls it. His pronunciation is a nasal buzz, like a cicada on a summer afternoon, lasting about a second. Roger Tory Peterson spells it *beezp*, which is the most phonetic spelling to my ear. I would guess the woodcock makes the sound by vibrating his long tongue between his mandibles like a reed instrument. He did it six times at

three-second intervals, then there was the twitter-up of wings and he flushed horizontally across in front of the car.

"Watch him," Larry said. He'll spiral now."

I'd heard about this spiral but no one had described it as having a diameter of 150 yards. We watched as he came around, higher on each loop, until he climbed nearly out of sight. Vertical distance is misleading but we estimated that he went up 200 feet or more. He seemed suspended there, then started down so abruptly that we lost him, but we began to hear his wonderful liquid song in irregular bursts of four rapid notes. As the music grew louder we saw him in a zigzag dive, then there was the wing twitter again and he put on the brakes and sideslipped into the pines almost at the site of his takeoff.

"He goes to a lot of work to show off in front of a girl," Larry whispered.

Whistle . . . Plop

The next time he took off, Kay and Larry and I slipped out of the car and ran toward the site of the flush. Dodging among five-foot pines, we flushed a second woodcock that went off low—probably the female. We had just got huddled against a pine when we heard the male coming down, heard the whistle of his wings and a plop as he hit the ground 30 feet away.

He must have known we were there but he buzzed and made a dozen or so more flights, landing nearby each time. Then low clouds moved in and the flights ceased.

I'm told that the woodcock does his sky dance at dawn as well as at twilight. Most books imply that this courtship display begins when woodcock return to their breeding grounds. After

the female is attracted by the impressive flight and song it is suggested that mating takes place on the singing ground, and the eggs are later laid nearby. This is probably true in places where woodcock breed and summer, but where we live near the Mason-Dixon Line any woodcock that raise young here keep their existence a secret. Even in autumn migration we see only a few woodcock. I have never seen a woodcock with young in this area during the 29 years we've lived here, and have heard of only one brood. But we do see the sky dance.

The abnormally large flights in October and November of 1967 were followed by an unusual number of woodcock that dropped into our coverts on their way north in March and April of 1968. Spring "singing counts" are made by game biologists to estimate woodcock population. In our local coverts these counts record mostly transient males on their way to breeding grounds farther north, not birds that will produce young here. I have visited coverts in early October where



WOODCOCK'S OUTER PRIMARIES
PRODUCE WHISTLING FLIGHT

several males had been counted in the spring and, with a pair of good woodcock dogs, failed to turn up a bird. I suspect that singing males in our area either play to an empty house or, if matings result, that the hens continue north to lay their eggs. In his *Ameri-*

can Game Birds (Charles Scribner's Sons, 1954), Frank C. Edminster says that courtship may have started in migration, though it begins in earnest as soon as the birds reach the breeding area. This makes sense to me.

Banding records show that woodcock, after their first winter migration, return to breed in the same area where they were hatched, coming back each spring for as long as they live. This pattern exposes them and their progeny to concentrated pressure if their breeding grounds are gunned heavily in early season year after year. They escape some of this by departing for the South.

Aerial Display

On the second day of April, 1965, I flushed a woodcock in our lane. It disappeared in cover bordering a plantation of young pines north of our house. Just after sunset when I stepped onto the north porch I heard a woodcock *beezp*. For three-quarters of an hour Kay and I watched and listened to a fine display over our pines, the first sky dance we were aware of here at home.

The following evening at 6:51 we heard a tentative *beezp* at the edge of the pines. Gradually the sounds became more frequent until 7:00 o'clock when the bird made its first flight. While he was in the air we heard a second male in the pines. As we moved closer we flushed a third woodcock, the coy lady being courted, identified by her larger size. The first male soon gave up and moved away, but the second one made repeated flights. He landed so near where we were hiding we could hear a curious *took-koo* sound before each *beezp*, like the cooing note of a pigeon. Once we saw him on the ground. He didn't strut but at each *beezp* his body and small tail jerked from the force of his delivery. The weather was cool with thin overcast, there was a new moon in the west and we had a good performance until we came into the house at 7:30.



NED SMITH

The woodcock starts his act when the light diminishes to a relative level after sunset, or increases to this intensity after dawn. In his *The Book of the American Woodcock* (The University of Massachusetts Press, 1967), William G. Sheldon says: "Leopold and Eynon (1961), in 24 readings of light intensity, found that woodcock give their first evening peent between 5.0 to .02 foot candles." On a clear evening this occurs about 20 minutes after sunset. Rain, snow or fog discourages the show.

On the third evening at home the buzzing began at 6:50, within a minute of the time it started the previous evening. After a buzzing warm-up for five minutes he made nine flights in 19 minutes. Once he skimmed in so close he nearly touched our heads where we crouched in the dusk among the short pines.

Singing woodcock behave within a general pattern, with variations. One bird may sound the *beezp* in groups ranging from as few as three to as many as 50, and we heard one series of 65. The preliminary warm-up often continues for five or 10 minutes. The *beezp* seems always to last about one second, but may be spaced three to five seconds apart. If you knew what the woodcock had in mind you could count down with him to zero and be prepared for his launching—you simply wait for the twittering takeoff whistle of his wings.

Not Always a Spiral

The birds don't always ascend in a spiral. One woodcock zoomed away like a rocket fired at a low angle, turned back and came almost directly over us but climbing. He made two or three forward and back ascents



HIS DESCENT IS like the falcon's stoop, except that it zigzags. The accompanying vocal notes have an interesting ventriloquistic character.

until he reached what a falconer would call his "point of pride" where he flickered, a mere speck in incredibly high and joyous flight. The descent is like the falcon's stoop, except that it zigzags, and the accompanying clusters of *chirp-chirp-chirp-chirp* rising vocal notes have a ventriloquistic character—one moment seeming directly overhead, then behind, followed by a split-second of silence before the bird splashes down from a completely unexpected direction. If you are at your car you can lie back on the hood and keep the woodcock in view throughout his climb and dive. The sky dance may go on for a half hour or longer. No two birds perform exactly alike and even individuals vary

from night to night. On bright moonlit nights they have been known to continue all night.

In 1965, our woodcock sky-danced here from April 2 to April 6. The next evening the weather was warm, cloudy and breezy, and two males buzzed near our house for 10 minutes but there was no flight. The following evening, April 8, there was not even that haunting sound. The woodcock had moved on. A sky dancing display for only a few evenings suggests passage woodcock. In breeding areas the sky dance may continue into early June.

Likely Terrain

I'm sure passage woodcock have been sky dancing in favorable spots in our terrain, even on our own land, every spring we have lived here. We just didn't know what to look for or listen for. An open field near swampy land or alders is a likely place. Flat areas with scattered hawthorns or plantations of young pines appeal to woodcock.

In some places they are heard in February, in others even the passage birds may stay as late as May. Listen for the *beezp* soon after sunset. Face west and keep the lighter part of the sky behind the woodcock when he takes off. As you watch that fluttering form, listen with your mouth open and your hands cupped behind your ears and you will hear one of the loveliest sounds on earth or above it. The woodcock was making his astounding flight thousands of years before we learned the word "astronaut" and, if treated half decently, he may be doing it at twilight on spring evenings a thousand years from now.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.

Dandelion Dividends

By Robert H. Wright

FEW WILD PLANTS are more disdained than dandelions. Gardeners despise them. Farmers curse them. And people with lawns attack them with undying fury.

Yet, some people have found that the lowly dandelion can pay considerable dividends. In fact, it is quite a useful plant. Every part of it, from the root to the blossom, is edible, and it has played a small but distinguished part in human history.

The dandelion's credits are many and varied. No doubt the most widely known is the plant's use as "dandelion greens." It is a rare Pennsylvanian that has not at least tried this vegetable dish, and many consider it quite tasty. Almost everyone has the opportunity to include this delicacy on his menu occasionally, since there is hardly a square mile in all Pennsylvania where dandelions cannot be found.

For dandelion greens to be at their best, the leaves should be picked while still tender, early in the spring. Later, after the plants flower, the leaves become tough and have a somewhat bitter taste.

If the leaves are young, boiling them in water for five minutes should cook them. Drained and seasoned with salt and pepper, and butter or vinegar, they are appetizing and nutritious.

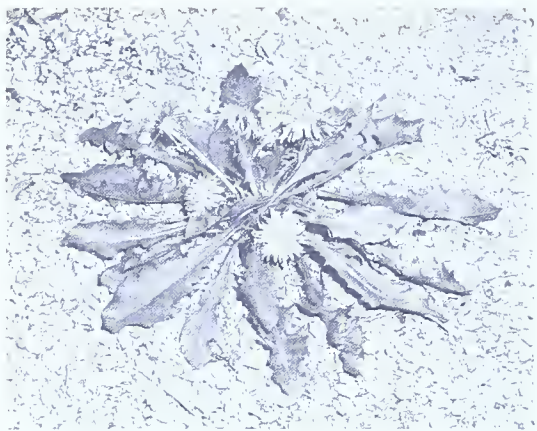


DANDELION ROOTS grow long and deep. Roasted and powdered, they make an excellent "coffee." The white crown atop the root makes a tasty addition to salads.

Nutritionally, dandelion greens are tops. The U. S. Department of Agriculture rates the dandelion far superior to most of its domestic cousins. Spinach, for example, has long been considered a super source of Vitamin A, but Popeye's favorite, with 21,200 units per cup, cannot match dandelion greens with a fantastic 27,310 units—better than five times the minimum daily requirement.

In addition to Vitamin A, dandelion greens also provide respectable amounts of calcium, iron and ascorbic acid (Vitamin C). And to the delight of dieters, all for only 80 calories per cup.

Since the leaves of the dandelion are so healthful it is little wonder that other parts of the plant are often ignored. But for those who don't mind a little spade work, the roots can sup-



A POPULAR SPRING "green," the whole dandelion plant is edible. It's high in vitamins, low in calories—and free.

ply still another vegetable dish. Prepared like parsnips, the young newly grown roots are perfectly palatable.

The older, yellow roots are too tough to be served as a vegetable, but they should not be thrown away. Digging dandelion roots is too strenuous a job to waste any effort. Besides, these roots are quite usable. Roasted, they make an excellent hot drink considered one of the best coffee substitutes found anywhere. To prepare them, simply roast the roots in a slow oven until they turn brown and are brittle enough to be crushed easily into a powder of coffee-like consistency. Use just like regular coffee—but less dandelion root is needed to make a cup of the same strength as ordinary coffee. Dandelion coffee tastes surprisingly like regular coffee, and is caffeine free.

Root-Crown Bonus

Anyone who goes to the trouble to dig dandelion roots can reap a bonus by saving the crown from the top of each root. The crowns are the white outcroppings of leaf stems that emerge from the roots. Sliced thinly, they add a novel taste to tossed salads.

It is in the midst of these crowns that the familiar yellow flowers begin to grow. While they are still undeveloped yellow masses nestled in the crown, these young flowers are one

of the most delicious parts of the dandelion. Cooked the same way as greens they make a delicate and nourishing vegetable.

The botanical name *Taraxacum officinale* indicates that this "weed" has earned the status of an official herb. The term *officinale* indicates that it is a recognized medicinal plant in the pharmacologies.

Dent de Lion

Derivation of the common name dandelion is subject to debate, but it is generally agreed that the word comes from the French *dent de lion*, or "lion's tooth." This refers to the notched or toothed leaves.

Dandelions are often contaminated by chemicals such as herbicides and insecticides, so extreme care should be used when gathering plants in areas where chemicals have been used.

In the days before the use of chemical sprays made gathering plants a risky business, many wild plants were used as medicines. Of these, dandelions were a favorite of the ancient herb doctors. Various parts of the plant were prescribed for anything from spring fever to tuberculosis.

Saved Population

Although the dandelion was no cure-all, its high vitamin content no doubt did help many victims suffering from certain vitamin deficiencies. In one case, dandelions even saved an entire population from starvation. When a plague of grasshoppers wiped out the vegetation on the island of Minorca, the people managed to survive on dandelion roots.

An entire diet of dandelions may be a bit extreme, but it points out the value of this unsung hero of the weed world. Weed though it may be, the dandelion can be a novel addition to any menu. And by far the most novel aspect of the dandelion, in this age of ever-increasing prices, is its cost. It's free.



Stolid Master of Survival

By Wilbert Nathan Savage

Photos by Leonard Lee Rue, III

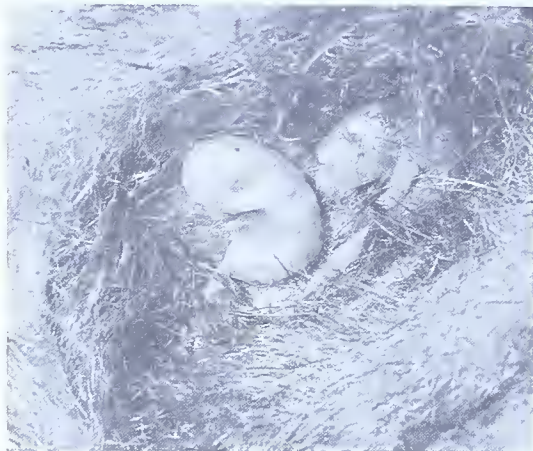
ANY INVESTIGATION into the private life of the opossum usually leads at the outset to some standard conclusions: he's a drab, indifferent slowpoke that manages to be passive but never gracious. In the categories marked cunning, sociability, tact and charm, even the most generous computer would find him woefully wanting.

Further prying into the timid creature's personal makeup suggests there'd be little likelihood of risk in wagering that he's a comparative newcomer to the globe. But you'd lose the wager—and perhaps be astounded to boot—for Br'er Possum was an earth-dweller

before the day of the mastodon and the saber-toothed tiger! Pinpointing his long-ago existence on the North American continent, fossilized opossum skulls found in Montana offer scientific evidence that he lived during the time of Cretaceous dinosaurs—fierce monsters mysteriously unable to do as well as the shy possum in adapting themselves to changing conditions.

How this doltish furbearer ever ran the gantlet of the ages in such hardy fashion is something of an enigma. But he definitely was poking around the countryside at least 90 million years ago. Many species of mammals

lived in that grim era, but the opossum is today's only survivor. Most incredible of all, the animal's body structure and appearance remained almost totally unchanged during his stoic journey through myriad centuries!



A NEWBORN OPOSSUM IS SMALLER than a honeybee but increases tenfold in size during its first week in the mother's brood pouch.

If one logical explanation is to be drawn from the possum's uncommon record of survival, it must have to do with prolific distribution-of-the-species achievements. For *Didelphis virginiana*—the common or Virginia opossum—is at home in most of the United States and bordering areas. Certainly he's so well represented in Pennsylvania that it would be folly to say there is a Keystone county entirely bereft of possum population.

As a furbearer the crusty critter has had his ups and downs. Sometimes his pelt is next to worthless; during more favorable seasons it may ring up the dollar sign. Fluctuations notwithstanding, many a rural lad has rustled up pocket money trapping the easy-to-catch possum—and in the process has become biologically acquainted with the only marsupial (pouched mammal) inhabiting this country.

As a schoolboy trapper in the late 1920s, the author claimed the coarse coat of many a possum. When I

caught two extra-large members of the species one damp mid-December morning and promptly sold them to a local fur buyer for \$3.30, I felt sure that the event should rate gold-strike acclaim. Having then recently been insulted by an extremely rude skunk, I found it prudent to reason at age 13 that two possum pelts worth \$3.30 represented a much more comfortable income than that supplied by an impudent No. 1 skunk — even if his troublesome hide did fetch \$3.75!

Nighttime Shuffler

The opossum may occasionally mosey about by day, but generally he favors nighttime activity. Spot him at night and his black eyes will glow like red embers. As a ground traveler he shuffles along in awkward fashion. You may find him cozily lodged in a tree, where he can maneuver skillfully and even hang, monkeylike, by his prehensile tail. This special endowment comes in handy when all four feet are needed to clutch a favorite meal that happens to be sizable—or squirmy.

Never one to grumble about monotonous menus, this living relic of by-gone ages will eat just about anything from wild plums to young pullets, from birds' eggs and fledglings to tadpoles, rodents, insects and Mayapples. Of course the possum's traditional preference for persimmons has been so oft-repeated in legend that it ranks with accounts of the fox and the grapes and bruin and the bee tree.

The possum is also a kind of part-time scavenger. He holds common household garbage in great esteem, and is frequently at home in some secluded hideaway within the boundaries of a busy metropolis. But no matter where you find him, he seems to follow one dining practice that often costs him his life. This has to do with his habit of seeking out highway-killed creatures as food, and it annually lowers the boom of identical fate upon many a member of the

Didelphis tribe. As a traffic target, the cards are really stacked against Old Slowpoke. Besides being no whiz in the pick-'em-up-and-lay-'em-down department, auto headlights are apt to startle him silly. He has little more savvy than a garden toad when it comes to timing his escape from hurtling peril, and he never learns a thing from hairbreadth misses!

Though he may be dull and eccentric, the opossum's complex family life sets him apart as a most extraordinary mammal. An exact account of the animal's eon-old birth schedule and subsequent incubation of minute offspring in a food-dispensing sheltered pouch—well, the whole arrangement seems so farfetched that recollections of zoological tales from fantasyland may be aroused. Here's why:

The gestation period of the opossum is a mere 12½ days—less than the time required for a robin's egg to hatch and less than one-fourth of the time needed to complete development of the young possums as pouch dwellers. Unbelievably, the seventh day of the gestation term finds each opossum embryo scarcely as great in size as a mustard seed! Yet, somehow, precision acceleration of development contrives to ready the young for on-time delivery after approximately 132 hours of additional preparation for the event.

Eighteen Per Tablespoon

At birth, a litter of eighteen possums may rest securely in a tablespoon, with the weight of the entire dozen and a half youngsters averaging about one-fifteenth of an ounce. Can you imagine—it would require some 4300 of these living, breathing, digesting creatures to weigh a pound! But how rapid their growth within their mother's warm pouch! Within a week, each hairless offspring is some ten times its size at birth.

How do such tiny particles of life get into the protective pocket? At one time it was believed that the female gently picked up each baby and

placed it in her pouch. But patient observation has proved this conclusion wrong. Actually, each wee mite must make his own way to shelter. For this first journey the front feet are fairly well formed and equipped with pointed little claws. With these the youngster reaches out and pulls himself along, using a hand-over-hand motion like the stroke of a swimmer. Of course it is a pawing struggle all the way, and sometimes upon reaching the pouch the newborn possum finds all "feeding stations" taken. Thus natural tragedy strikes and perhaps half the members of a large litter may quickly succumb to starvation. There is no such thing as taking turns at the nipples; firstcomers grab hold and literally hang on for their lives—perhaps for as long as eight weeks without once letting go their source of nourishment.

The pouch of the female opossum is a marvelous container. Within the well-designed fold of abdominal skin are 11 to 15 milk glands. (A mother opossum may bear as many as 25 young, hence the certain starvation already mentioned for some.) Curiously,

TO MANY PEOPLE, the opossum is an unattractive creature, yet it might be difficult to find anyone who doesn't find this mother and offspring appealing.





TO A YOUNGSTER who hasn't been on his own too long, this world can be a scary place — best examined carefully from a distance. . . .

the serviceable housing unit may be closed by a set of ring muscles, thus preventing the brood from falling out while the mother is doing some necessary acrobatics in trees or on rough terrain.

At the time of its arrival in the world the undeveloped hind feet of the young opossum are little more than buds or pads, and it is destined to remain blind for up to eight weeks. After about two months in the mother's leathern compartment, the spry young exhibit a fine coat of hair. Now they pop in and out of the pouch and scamper up on the mother's back. They find this new site most satisfactory, for atop mamma's back they can either bask in the sun or go for a ride—the latter treat requiring all passengers to dig into their mother's fur and hang on for dear life.

After they have been in the world about 90 days the young'uns begin to look around for their own food. But for weeks thereafter they remain quite

dependent on Ma Possum, not only for protection and food, but also for instructions in ways to meet that ever-present problem of rustling up the daily bill of fare.

Where is Papa Possum all this while? Well, he's something of a loner and a sport. It is very likely that the promiscuous critter has been dodging even token participation in bringing up his sons and daughters for many millions of years!

The opossum's shrewd act of playing dead when molested is such a standard habit that most people are aware that the phrase "playing possum" long ago came into being courtesy of Br'er Possum's example of deceptive behavior.

Actually, when a persecuted possum plays dead—and believe me he's quite durable and hard to kill—he may be experiencing genuine but temporary paralysis. Some leading naturalists now believe that the animal does not deliberately adopt the "lifeless" posture of self-defense. They suspect that the sensed presence of peril is too much for his nervous system and a surge of fear brings on a benumbed seizure. But whether his fixations are real or fixed, this is certain: the strange behavior of the ages usually recognizes the proper moment to forsake inertia and slip away to less hostile surroundings.

Indian Name

"Opossum" is an American Indian name. In the language of the Algonquians it means "white animal." This isn't an entirely accurate description since his grizzled coat may be more dingy gray than white, often with outer hairs showing yellowish-brown tips. Black opossums—resulting from an overdose of the pigment melanin—are more plentiful generally than pure white albinos, where nature's whims have ruled that the coloring pigment be totally absent.

Never very choicy about living quarters, the opossum is at home in a

hollow tree, vacant woodchuck burrow, or natural cavity in a stone ledge—with or without a sparse lining of leaves or grass. Barring accidents he can expect to enjoy a life span of about seven years. But his normal life expectancy is often cut short by certain wildfolk enemies—the mink, fox, great horned owl, wildcat, etc. And to make life even more hectic, slow-witted old *Didelphis* must traditionally contend with men and dogs—a troublesome duo largely responsible for his unsolicited recognition in old-time fiddle tunes and folk songs.

Physical Characteristics

Tales of giant Methuselah possums notwithstanding, an adult usually weighs in at from 8 to 12 pounds. Although he doesn't hibernate, in the fall he becomes a bit heavier when he puts on an extra layer of fat against the rigors of future severe weather which may keep him "indoors" for days at a time. His length ranges from 20 to 26 inches, about 10 or 11 of which is naked tail. His odd anatomy includes more teeth than most species of land mammals (up to 50), and each of his five-clawed feet is fitted with an opposable digit—that is, the great toe is formed to function much like the thumb on a human hand. His pointed face is topped by almost hairless, but fairly sensitive, ears. His berry-black eyes aren't as keen-sighted as they appear, but his sense of smell certainly is good enough to help him locate a henhouse, baited trap, or some other food source that may or may not get him into a peck of trouble.

How does the possum rate as a meat animal? Well, he's fondly favored by some, snobbishly frowned on by others. Personally, I'd turn down roast possum any day for a plump portion of young woodchuck or muskrat. Of course this expression of choice is in no way meant as a downgrading slap at that well-prepared platter of possum. After all, there are those who



BUT ONCE YOU GET used to it, your approach can be more casual and relaxed. After all, how many people down there can match this little trick?

do not care for wild duck, or bear steak. Or ramps. Or sassafras tea. Or beefsteak.

For all connoisseurs of prime possum who may be voicing their "aye" votes for a good recipe for roast possum, here's a top-rated one—from a Southern cookbook:

Roast Possum

Skin. Draw. Remove head and tail. Par-boil in salted water. Stuff with following:

- 1 can anchovy fillets
- 2 cups bread crumbs
- 1 can consomme
- 2 eggs, beaten stiff
- 1 clove garlic
- 2 tablespoons chopped parsley
- 1 onion, chopped
- 1 teaspoon caraway seeds
- $\frac{1}{4}$ teaspoon paprika

Mix well. Cook in skillet with two tablespoons butter until mixture is stiff. Stuff opossum. Place in roaster. Add 1 cup water and 1 tablespoon Worcestershire sauce. Roast at 450° F. until brown. Then reduce heat to 350° F. and continue at this temperature until meat is well done.





HAWKS *across* *Pennsylvania*

Osprey

By Ron Jenkins

(*Pandion haliaetus*)

WITH LEGS and talons extended beyond his heavy, sharply hooked beak, an osprey was an instant away from contact with a fish beneath the surface of quiet waters on one of Pennsylvania's many lakes. A splashing entry, and a few moments later the osprey, almost completely submerged, began flapping heavily until his long wings were grasping air and able to pull him and his catch out and above the surface of the lake. He flew directly to an exposed limb on a dead pine tree near the edge of the lake, and immediately began feeding on his prize, a 15-inch sucker.

This describes a typical hunting foray of the osprey. It usually follows periods of soaring and hovering over a likely fishing spot until a fish is sighted near the surface.

Ospreys are champion fishermen and indeed they have to be. Their diet consists exclusively of fish. Usually the slower feeding types like suckers are taken, but any species is fair game.

Ospreys have heavy feet covered with rough spiny bumps that help hold their slippery prey. Talons are long, deeply curved and well adapted for catching and holding fish.

This great hawk is built especially for his life as a fisherman. Even his wings, long but not too broad, are similar in design to sea gull wings, which are adapted for soaring with the unsteady air currents over water.

Ospreys are large birds and at a distance are often mistaken for eagles. Their wing span as adults may reach six feet. However, their familiar crooked-wing attitude and white underparts identify this species.

Osprey nests are often found in colonies along the seashore. Some residents there have built large platforms to encourage nesting, and partly to keep these hawks from building their huge nests on telephone poles. In Pennsylvania, their nests may be found near large bodies of water.

This past summer I observed a pair near one of our smaller lakes. These two have returned for several seasons, but I have never been able to find a nest. I suspect, after watching them fly from the lake, that a nest is within sight of the water, but approximately $1\frac{1}{2}$ miles distant in a straight line on top of a nearby mountain.

Ospreys will lay a typical clutch of 3 eggs, usually tan with dark, reddish-brown splotches. The eggs hatch in about one month, and the young are ready to leave the nest two months later.

Many ospreys can be seen each fall when the hawks are migrating south on our flyways. None stay long into winter, because of the annual freeze-over which prevents them from hunting.

Study the osprey whenever you can. Even to the veteran observer, such a large bird is always interesting.



AERIAL PHOTO OF THE FLOOD PLAINS at Loyalhanna Dam, Westmoreland County. Water levels are comparable to those in hunting season.

Hunting and Game Management ON FLOOD PLAINS

By Nick Sisley

IN THIS ERA of multiple land use and modern game management, open public hunting lands and their management become a complex and expensive problem. State game departments find the price of land increasing every year. Consequently, they sometimes must purchase grounds that are not completely desirable. Perhaps these lands have been previously stripped of coal, the hills may be too steep or eroded for other uses, or the land might be remote and hard to get to. Price often prevents purchase of lush, expensive bottomland.

However, some of these bottomlands can be comparatively inexpensive for game departments to manage in that there is a high return of many game species per dollar spent. The

Pennsylvania Game Commission has been utilizing and managing many acres of such bottomland for years. These lands are in addition to the more than 1,000,000 acres the Game Commission has purchased outright, which we know as State Game Lands.

The Federal government, through the U. S. Army Corps of Engineers, has purchased thousands of acres of bottomland and built dams for flood control, water conservation, hydroelectric power, and other purposes. They usually purchase all land that can possibly be flooded when the reservoir pool is at maximum level. Much of this land lies idle most of the year, except when high water conditions require closing the dam gates, raising the water level and flooding these areas. Since these lands are federally

owned, the Army Engineers are usually anxious to see them kept open for multiple-purpose public use.

The Pennsylvania Game Commission has agreements with the Army Engineers to manage these areas, which are called flood plains, at several Pennsylvania dams. The Commission's Division of Land Management is in charge of improving wildlife habitat at these flood plains. Before construction of the dams, these areas were usually productive farm country. They remain lush because of flooding each spring.

Nearby farmers are encouraged to farm certain areas of the flood plains through agreements with the Game Commission, and the Game Commission sometimes receives a percentage of the crop. In addition, the Game Commission does cultivating and planting of its own. In some areas, hedgerows of multiflora rose are planted for cover protection for rabbits, quail, and pheasants. Between these hedgerows, fields are cultivated with corn, alfalfa, soy beans, wheat, or other crops. Because of ideal habitat and guaranteed public access, those three game species are often stocked. In other areas, hardwood timber is managed for squirrel.

Deer Like Areas

White-tailed deer find these lush bottomlands to their liking, too. Dense areas of low type plant life are well suited to their needs. Hunting flood plains may be difficult because visibility is often limited. Deer drives can be productive, and these areas are good for the bow and arrow hunter who slowly and silently stalks. Because of ample feed, deer are generally larger and bucks have bigger racks than those found in some mountain areas.

Wherever clean water is abundant, ducks and geese can be attracted with minimum effort. At flood control dams, millet sowing in marshes and mud flats pays dividends in waterfowl usage.



HUNTERS WHO DON'T mind thick cover, Spanish needles, thorns, etc., can get good shooting for various game species in flood plain areas.

Also, many state game departments raise and release waterfowl every year. Reservoirs open to public hunting are sensible places for such releasing. The reservoirs are also important stopovers and resting spots for fall and spring waterfowl migrations.

Ruffed grouse find these bottomland thickets to their liking. Crab apple and gray dogwood growth are especially favored by this species. The grouse is always a formidable adversary, but in these especially thick bottomlands, he becomes even more of a challenge. These areas will seldom be hunted by those that can't stand continual jagging of thorns, constant stooping to get through thick places, or the picking of hundreds of Spanish needles from their clothing after the hunt.

Steve Liscinsky, wildlife biologist with the Pennsylvania Game Commission, has had excellent success in planting shrubs which develop into prime woodcock habitat. This writer is especially interested in woodcock



A GOOD DOG is a big help in locating game for the gun as well as finding it after it drops in dense thickets.

and their habitat. It appears that flood plains are areas especially well suited for developing such habitat. On field inspections with Steve, I have seen some of his success, particularly in growing alder. Coverts made up of this plant species are the most favored by woodcock. Steve has had success in sowing the seed after disking the soil, but results have been almost as good with no soil preparation at all. Alder seed is not commercially available, but it may be hand picked locally with relative ease. Sowing large areas is not necessary or recommended. It is better to sow small areas, and the alders will continue to spread in future years. His results show conclusively that February and March are the best months to sow seed. Alder thrives only in ground having abundant moisture. Flooding the flood plains each spring provides that needed moisture.

Steve has also had success planting other shrubs beneficial to woodcock. These include seedlings of gray dogwood, silky dogwood, black haw viburnum, willow and others. Again, planting small plots is advisable as the plants reseed outwardly as they mature. Most of these seedlings are

grown by the Game Commission; few, if any are available from commercial sources.

The usual woodcock cover becomes mature after about 20 or 30 years. As the favored habitat plants become higher and mature, more sunlight gets to the ground, grass growth becomes dense, and other requirements of good woodcock habitat are lost. The long-range effects of flood plain woodcock covers appear to favor a longer period of maximum woodcock usage. Management can perhaps make the life of a woodcock cover indefinite.

In most years, flood control reservoir levels are raised and lowered before ice out. The ice is left on top of the plant life in the flood plains, and it crushes and topples many shrubs. The net effect on maturing woodcock cover is to slow down or even prevent its maturity. Steve and I have seen evidence that on young alders and other immature woodcock habitat the ice also restricts it somewhat from reaching a high enough stage to be attractive to woodcock.

Mature alder shoots are much thicker than young ones, and comparatively brittle. For this reason, the "ice scourge" seems more likely to crush mature plants than young ones.

NICK SISLEY'S DOG returns a woodcock he dropped after it cleared alders in western Pennsylvania flood plain.



I believe the net effect of this ice action is good. Flood plains at older dams offer woodcock habitat in all stages of maturity, from seedlings to completely mature. More recently built dams show considerable damage to the young plants in the area by this ice action, but these, particularly alder, do not die. They continue to grow and spread, and even at recently built dams, there are areas of good woodcock populations.

Flush Rate Excellent

Woodcock flush rate data on flood plain habitat does not exist. From personal experience, I can say that the flush rate is excellent. The generally accepted national average is .67 birds flushed per hour. A woodcock hunter, once he becomes familiar with flood plain habitat, will do much better, although there is much variation from day to day due to the still unexplained migration characteristics of the bird. It seems they band together before a migration flight, and at such times flush rates may be over five per hour. I have never gone to my favored flood plain coverts in the first 10 days of the season without finding a mple birds.

At various places all along the watershed above a dam are small plots of excellent woodcock habitat. I surmise that many woodcock fly downstream to congregate at these flood plains before migration. If this is true, it is logical to assume that birds raised in the small pocket covers surrounding the area of a flood plain will congregate there, too. A flood plain offers a large expanse of cover in comparison



AFTER THE DAY'S hunting comes the work — removing burrs and Spanish needles from the long hair of your dog.

to the small covers most Pennsylvania woodcock hunters are used to. A big cover offers woodcock a better opportunity to meet with other members of the species before a migration flight begins.

I have dwelt on woodcock habitat more than on other aspects of these federally owned lands because I am more familiar with this species. However, such lands can be managed for a variety of wildlife, including those mentioned in this article. Furthermore, they have other advantages, including ease of public access, a high return in game per dollar spent, and the fact that state game funds need not be spent for their purchase. The Pennsylvania Game Commission's programs in these areas have already shown success, and doubtless these programs will be expanded in the future. Hunters are urged to make use of the game populations found in our flood plains.

Real House Builders

Like eagles, ospreys use the same nests year after year, rebuilding them to the extent that some weigh up to 1000 pounds.



THE CLASS entered as students, above, departed as commissioned officers, top right. Below, Lieutenant Governor Raymond J. Broderick delivers address.



Graduation

ON FEBRUARY 15, 1969 from the Ross Leffler men were commissioned Per assigned to the field. More the ceremonies at which th Lieutenant Governor of Po These new officers follow in who preceded them, dedicat our natural resources.



OATH OF OFFICE is administered by the Honorable Robert M. Morris, below. At right, happy family group poses for photo after the graduation.





n Day

enth Class was graduated
Conservation. Twenty-five
Game Protectors. All were
tives and friends attended
le Raymond J. Broderick,
was the main speaker.
f the 266 Game Protectors
ves to the conservation of



GERARD J. ZEIDLER speaks for gradu-
ating class, top. Above, Executive Direc-
tor **Glenn L. Bowers** presents diplomas.





FIELD NOTES



Visitors

WARREN COUNTY—During January I had the opportunity to take two visitors from South America, one from Argentina and one from Peru, on a tour of my district. Often during our travels we saw deer, and our visitors were quite excited about seeing so many. On many occasions they asked to use the binoculars so they could have a better look at the area. The highlights of the tour were the beaver dams, their house and how beaver cut trees. Evidently beavers are not found in their countries.—District Game Protector D. C. Parr, Tidioute.



Now He Knows

ERIE AND CRAWFORD COUNTIES—A certain individual has been complaining about not seeing deer in his area since the extended day of antlerless season. The other evening I picked him up and we went for a ride. We spotted 35 deer in a picked cornfield less than a mile from his house. Now we are all set with this individual to hunt antlerless deer again next year.—Land Manager J. C. Hyde, Townville.

Something to Remember

While on field assignment in Lackawanna County, Officer Wylie and I were on patrol and checking deer hunters. Driving down a dirt road, we saw a pickup truck coming the opposite direction. The truck stopped and we could see the two men in the truck trying to get their guns unloaded. I got out of the car and was halfway to the truck when one of the guns accidentally discharged. The two men came out of the truck shaking their heads and holding their ears. The hunter whose gun had discharged was wearing a Woolrich coat. The bullet traveled through the collar and blew the back of the collar off the coat, then went out through the roof of the truck. Needless to say, these hunters now know why it is against the Game Law to possess a loaded gun in a vehicle. The hunter paid the fine gladly, saying he was glad he was around to do so. — Student Officer W. A. Bower.

Don't Bother Me

PERRY COUNTY—I recently received a radio message from Harrisburg concerning a "crippled deer" on the ice in the Susquehanna River. The deer was on the ice, halfway between Marysville and the Fort Hunter Museum. People were watching the deer from both sides of the river and were quite concerned. The icy river was too treacherous to attempt a rescue. A number of suggestions were made, one of them being a helicopter rescue. As it turned out, when darkness set in the "poor deer" casually left on its own power.—District Game Protector B. D. Jones, Loysville.

Can't Please Everyone

ERIE COUNTY—This past season a man became radically upset when I asked to see his hunting license. He told me in a harsh voice that he had been hunting two days in two different counties and that he had been checked six times by six different Game Protectors and that he was getting sick and tired of being harassed. After examining his license, I thanked him for his cooperation and walked about 15 yards down the road where another hunter was parked. He looked at me in amazement and said, "Son, I've been hunting for 30 years and you're the first Game Protector I have ever seen." I said, "Sir, would you please walk over to that car and tell that to the man with a red jacket and a face to match." Lo and behold, at the next car I came to a short distance away, the man jumped out as if to do battle and in a gruff voice said, "I got one complaint with you guys—there ain't enough of ya!" — District Game Protector R. L. Sutherland, Erie.

All Frozen Up

ROSS LEFFLER SCHOOL OF CONSERVATION—On the night of January 30, after a bad ice storm, I was walking around the Training School grounds when I noticed a small animal about the size of an opossum moving around the cars in the parking lot. I decided to get closer in order to see just exactly what it was and what it was looking for. I planned my stalk so that I would get to the last car at the same time that the animal would. It worked out perfectly—and was I surprised. It was a skunk, and not more than five feet from me when it came out from under the car! But as luck would have it, the poor animal couldn't lift its tail to defend itself because it was completely covered with ice from its nose to the tip of its tail. And was I glad of that!—Student Officer D. A. McDowell.



Hey, There!

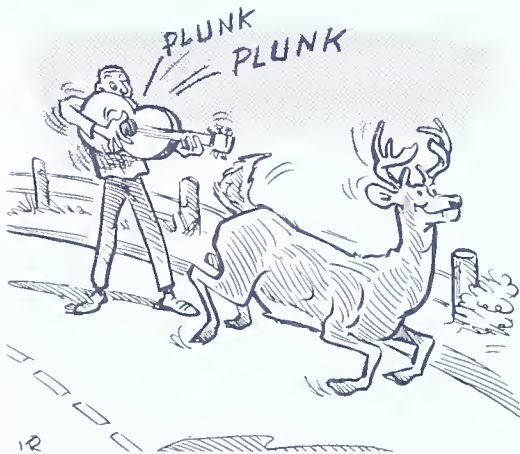
WASHINGTON COUNTY—A local deer hunter was buck hunting on a friend's farm. The farmer's son came to where he was and said, "My dad told me to tell you there is a buck in that tree line." He studied the tree line and noticed only one little brown spot. He told the boy to tell his dad that he must have dropped a bale of hay up there. He then turned to look down a hollow. A moment later he felt a tap on his shoulder. He turned around and the boy said, "Your bale of hay is running up the hill."—District Game Protector G. T. Szilvasi, Washington.

Possible? Probable

On the last day of the 1968 deer season I checked the deer of the grandson of Representative George (Heap) Alexander of Clarion. It was the grandson's first deer. He was 12 years old and mighty proud. Representative Alexander said, "The way of life is unbelievable. Fifty years ago, within a quarter-mile of where my grandson got his deer, I helped in the release of what I believe were the first deer stocked in this area. It is possible some of the blood from those deer still flowed in the deer my grandson got."—PR Area Leader R. Sphar, Seneca.

How It Really Was

LACKAWANNA COUNTY—I have often listened to hunters' tales of *the good old days*. They always bring to mind a quotation I once read: "The past always looks better than it was. It's only pleasant because it isn't here. . . !" — District Game Protector T. C. Wylie, Moscow.



Six-String Shooter

CLEARFIELD COUNTY — This story was told to me recently but the incident happened during the 1967 buck season before the new law on shooting from near highways was enacted. A man from Philipsburg, who is employed as a music teacher in State College, is a guitar enthusiast and carries one in the back seat of his car at all times. He is also an avid deer hunter, and it wasn't unusual that his rifle was in the back seat too as he drove to work through some prime hunting territory early one December morning. As the car descended a slight grade, the driver saw a buck with a beautiful rack crossing the road ahead. In a matter of seconds, the driver stopped the vehicle, grabbed for his rifle, jumped from the car, and stood by the roadside, searching intently for an opening to shoot. However, no shot rang out as the deer ran into view—but merely a melodic chord from the guitar he clutched in his hands.—District Game Protector J. R. Furlong, Ramey.

Still With Us

SUSQUEHANNA COUNTY—Judging from the number of squirrels on the move last fall, it seems there shouldn't be one left in the country by now, but this is not so. Rabbit trappers are being plagued by squirrels instead of rabbits in their box traps, and some bushytails have even taken up lodgings in attics. Three people have reported seeing squirrels in their bird feeders at night and another lady found one asleep in her feeder one morning. Large numbers are still being seen moving about the countryside.—District Game Protector D. G. Day, Hallstead.

One Goal Reached

ROSS LEFFLER SCHOOL OF CONSERVATION—On February 15, I, along with 24 other men, will be commissioned as Game Conservation Officers. For me it is the end, and the beginning, of many years of waiting and hoping—the fulfillment of a life's ambition. I am thankful for parents who bred in me the appreciation of the outdoors, and to the State of Pennsylvania to have the opportunity to pursue this way of life. My wish now is to serve my God, country, state, and family to the best of my ability.—Student Officer B. K. Ray.

Bomb Run

CENTRE COUNTY—On the evening of January 27, Ray Coursen, a Farm Game cooperator at Spring Mills, heard a thump against the side of his house. Next morning Ray found a half-grown muskrat lying near the house. The nearest water area is about two miles away. Examination of the muskrat led Ray to believe that an owl must have been carrying it and for some reason or other dropped it when flying over the house.—District Game Protector A. J. Kriefski, Centre Hall.

Embarrassment of Riches

FRANKLIN COUNTY—Talk about cooperation between law enforcement agencies and the public. Recently both a deputy and I received calls saying a deer had been killed. A man had called the State Police, saying a deer had been killed and he had gotten the license number of the car. In the meantime another deputy received a call from another man about the deer, so he met with still another deputy and went to the scene to try and apprehend the offender. The end result when we converged on the scene was one car with a deputy and his brother-in-law, two other deputies in their car, a Land Management Officer and I in my car, one of the persons who had reported the incident, the license number of one automobile, the number of the man who reported the deer, and one road-killed deer. — District Game Protector J. D. Mort, Chambersburg.

Wasted

MONROE COUNTY—Several hunters in my district complained that too many deer were killed as a result of the extended doe season in December. I do not believe the deer in this area were over-harvested, as I know of 38 killed by vehicles, three by dogs, and two illegally shot, for a total of 43 deer during the month of January, 1969.—District Game Protector E. L. Taylor, Stroudsburg.

Nuff Said

SNYDER COUNTY—As an out-of-state hunter was renewing his subscription to the *GAME NEWS* at the Farm Show exhibit, I asked him how he liked hunting in Pennsylvania. His reply was, "You hunt one day in Pennsylvania and you think you have died and gone to heaven."—District Game Protector K. W. Dale, Middleburg.

Stand Proud, D.A.

Evidently not everyone is familiar with the Game Protector's new uniforms. I was made aware of this recently in Jersey Shore during my law enforcement field assignment. While cleaning snow off the car, I noticed an elderly woman pulling, with much difficulty, a young girl on a sleigh. As I continued to watch, the woman shouted across the street that she had to take the little girl to the hospital for X rays several blocks away. I offered to pull the little girl, and as we approached the hospital the woman began thanking me. Only one thing didn't sound quite right. She told me I was a fine young gentleman and my troop would certainly be proud of me now.—Trainee D. A. Bernhardt.



Taking No Chances

GREENE COUNTY—Bradley Harkins of Spraggs went hunting in the mountains of Fayette County for the first time this deer season. He bagged a spike buck the first morning. It seems that Bradley didn't think the head shot was enough to keep the dead deer down. He tied a large rope around the deer's neck and then proceeded to tie the rope around a large tree. To make extra sure of keeping this prize, Bradley then proceeded to sit on top of his deer until help came!—District Game Protector L. V. Haines, Waynesburg.



After-Dark Uniform

DAUPHIN COUNTY—One night in December one of my deputies observed someone prowling around his automobile. He tried to catch him and ended up in a high-speed pursuit of the prowler's auto on the local highway. Much to my deputy's dismay, he was pulled over by the State Police for speeding. When asked for identification he realized he was clad only in pajamas. After an embarrassing explanation the deputy was sent on his way. This same deputy, upon opening his Christmas presents, was surprised to find a yellow flannel nightgown with a Deputy Game Protector patch sewn on one shoulder. Instructions on the card read as follows: "This is the new deputy uniform for night patrol; when pursuing anyone you can lift up the nightgown and run like heck."—District Game Protector S. L. Opet, Millersburg.

Weimer Repeats

SOMERSET COUNTY — Deputy Game Protector James Weimer of Somerset was the recipient of the Somerset County Federation of Sportsmen's Clubs' annual hunter safety instructor's trophy award. Jim is credited with certifying 417 students during 1968. Jim was also the winner of the 1967 trophy award.—District Game Protector J. Burns, Jr., Central City.

Obvious, Isn't It?

MONTGOMERY COUNTY — In February, I took my wife and 5-year-old daughter Stacie to the Philadelphia Sportsmen's Show. Some well-trained retrievers were part of the act. On Monday morning Stacie had her cat on the kitchen floor and was throwing pellets of dry cat food, which the cat would chase and eat. To prove children are impressionable, I overheard the following conversation: "Retreat, Retreat, Retreat, Fetch, Fetch." Then I heard Cindy, our older daughter, say, "I think the word you want to use is 'Retrieve.' Besides, a cat won't retrieve anyway." After a short silence, Stacie came back with, "She is so retrieving—she's bringing it back in her stomach." — District Game Protector H. T. Nolf, Telford.



Super Sniffer

ROSS LEFFLER SCHOOL OF CONSERVATION — While watching an area, a hunter saw a man walking from place to place and sniffing the air. After about 10 minutes the man had worked his way to within talking distance. Curiosity got the best of the hunter and he asked, "What are you doing?" The fellow replied, "Trailing bear." The hunter, now more confused, asked, "How can you do that when there's no snow on the ground?" "Easy," the fellow replied, still sniffing. "I trail 'em by smell."—Trainee D. W. Jenkins.



CONSERVATION NEWS



Keystone Hunters Bag 218 Bears

PENNSYLVANIA'S bear hunters reported harvesting 218 bruins during the 1968 season, according to the Pennsylvania Game Commission. This represents a considerable drop from the 568 bears taken the previous year and the 605 tagged in 1966, and is in line with the Game Commission's pre-season report that Keystone State bruins were scattered over a wide area due to a shortage of concentrated food supplies.

Cameron and Elk Counties Lead

Cameron and Elk Counties each produced 21 bears to lead the state, while McKean County was close behind with 20. Other top producing counties during 1968 were Clearfield with 16 and Pike and Clinton with 14 each.

In 1967, Potter County was the top bear producer with 66, followed by Elk County with 64.

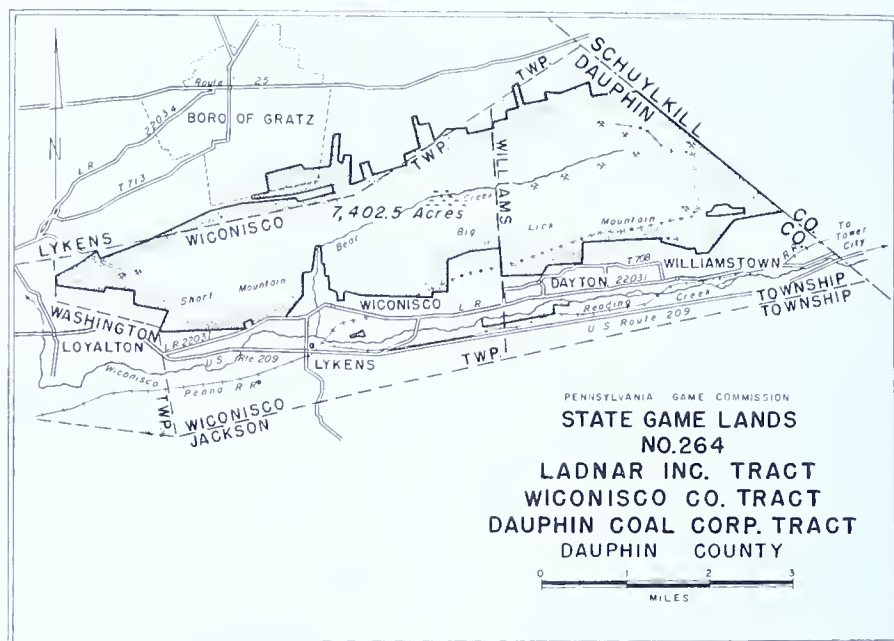
Although the large bear harvests during the 1966 and 1967 seasons were undoubtedly a factor in the reduced harvest in 1968, field reports indicate there is still a sufficient supply of bruins to promise exciting hunting in the future.



THE BLACK BEAR is, to many hunters, the top trophy available in Pennsylvania. This animal's intelligence, instinct, good senses and comparative scarcity make bagging one an event to be remembered a lifetime.

Policy Established on Deer Season Opening

The Pennsylvania Game Commission has established a policy whereby future antlered deer hunting seasons will open on the Monday following Thanksgiving. Many hunters must schedule vacations up to a year in advance, and the policy, adopted at a recent Commission meeting, will be of assistance to those who will be planning ahead. Under the policy, buck season in 1969 will open on December 1, and in 1970 the season will start on November 30.



NEW STATE GAME LANDS—SGL 264—has just been added to Game Commission holdings. Located in Dauphin County just south of Gratz and north of Lykens and Williamstown, the new area totals 7402 acres and was purchased at a price of \$101,782. SGL 264 will be open to public hunting. Game here includes deer, grouse, squirrel and rabbits.

Deer, Vegetation Study Launched by 3 Agencies

A cooperative study to determine the effect of deer on vegetation and food supplies on deer has been launched in northern Huntingdon County by the Pennsylvania Game Commission, the Pennsylvania Department of Forests and Waters and the Pennsylvania State University.

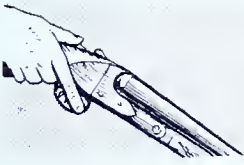
Game managers and foresters have long been in need of better information on deer carrying capacity of forests at various stages of growth. Indirect determinations made in the past, such as through measuring the amount of available winter browse, have not been fully accurate in showing how many whitetails a range will support.

The project is unique in that it is the first such known study in an oak-hickory forest type.

Knowledge expected to be gained in this research will be especially valu-

able to the wildlife manager in maintaining a deer herd in balance with available food supplies. It is also expected to yield data which will be important at the time when a forest stand is to be regenerated. Several tracts of clear-cut mature oak forest in Rothrock State Forest are involved in the study.

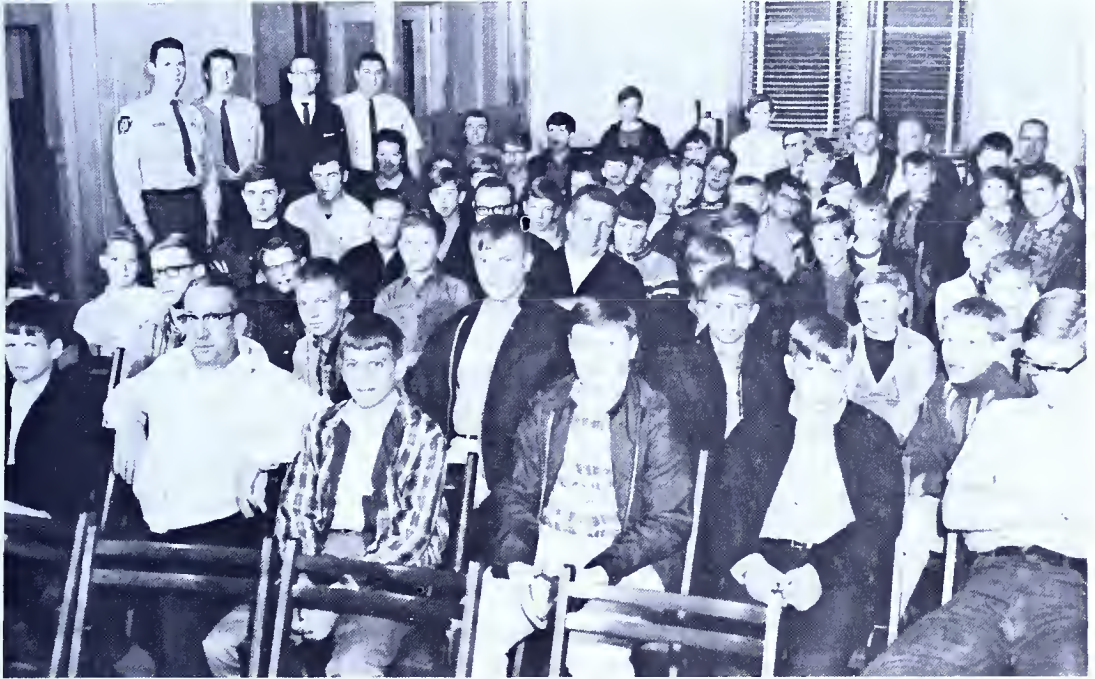
All vegetation was catalogued before the cutting, and deer enclosure fences were erected around four study areas after the cutting. Two female deer of the same age and known condition were placed in three of the four fenced units. The fourth tract will serve as a "control" area where there will be no browsing. Periodic measurements of the condition of the deer and browse production will be made for a number of years. The effect of small mammals and birds on vegetation will also be studied.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



THE LARGE TURNOUT ATTRACTED for the first Hunter Safety course sponsored by the Wilkes-Barre Recreation Board prompted Director James McClelland to make it an annual program. Shown standing behind the students are DGP Clyde E. Burkholder, Deputy Richard E. Walton, Mr. McClelland, and program director Tony English.

Hunter Safety Course in Wilkes-Barre

The Wilkes-Barre Recreation Board will present Pennsylvania's Hunter Safety Course on an annual basis. Anthony English, Jr., program director, announced that the course is to be given in two sessions and is free. The program is open to anyone 12 years of age and older, or for first-time hunters who will be 12 by hunting season. Faculty members of each student's school were extended invitations to take part in the instruction. Instruction will be given in the safe handling and care of sporting arms

and ammunition at home and in the field, basic rules and regulations concerning firearms, descriptions and identification of various types of sporting arms and related topics important to shooters.

The Pennsylvania Game Commission will administer the course with District Game Protector Clyde E. Burkholder and Deputy Game Protector Richard E. Walton coordinating the program. Certification will be presented to students after completion of the four-hour course.

Iron Curtain Hunter Safety

HUNTING and hunter safety is not of concern only in Pennsylvania and the U. S. It is interesting to note that one of the Old World countries with such a program is Romania. This Iron Curtain country requires each hunter to pass an all-day written and oral examination in firearm safety, law, wildlife habits, and hunting methods before applying for a hunting license. If he fails the exam, he may apply for another. After successfully completing the examination, he must apply for a membership in the General Association of Hunters, which will issue him a license for \$20 a year. Unless he possesses a membership in the Association, the police will not issue his firearm permit.

To own a rifle or shotgun in Romania, a hunter must belong to the State Communist Party and must obtain a permit from the police, who investigate him thoroughly to make sure he has no subversive tendencies and has no criminal record.

As an Association hunter, any vio-

lation of the law (shooting out of season, shooting at night with a light, shooting game animals for which he has no specific permission from the head gamekeeper of the area), means an immediate jail sentence which cannot be appealed, plus a fine corresponding to the value of the animal he killed and forfeiture of his gun permit and sporting arm. Strangely, a foreign hunter has little difficulty in bringing a rifle or shotgun into the country, so long as he registers its serial number on the way in and lets the army check it again on the way out.

Romania is approximately the size of the state of Oregon and has a population of some 16 million. Of these, about 60,000 are hunters and 120,000 anglers. Game animals include the giant stag, which is similar to our elk; the wild boar; the chamois, a goatlike mountain antelope; the Russian bear; and the miniature red deer. Among the wild birds are the Chinese pheasant, the capercaillie (black grouse), and many species of waterfowl.



PGC Photo by L. E. Bittner

ACTING GAME PROTECTOR W. R. Ketner explains operation of an autoloading shotgun to Mrs. M. Richard Biehl, President of the Junior Women's Club of Hamburg, during a recent program. Ketner was assisted in the program by Hunter Safety instructors M/Sgt. Donald Moyer and T/Sgt. Robert Devine of the Air National Guard.



FOR AIRBORNE TRIP, ARCHERS wrapped bows in sleeping bags, enclosed them in Extra Care ski boxes.

The Modern Approach . . .

Archery in the Air

By Keith C. Schuyler

Photos From the Author

SOME OF TODAY'S archery excursions are a far cry from when Indians slipped on their moccasins and took off for the nearest good watering spot. Time and distance force at least a consideration of air travel, whether for target tournaments or for hunting.

Strangely, the modes of transportation between the horse—the first step up from the moccasin—and the automobile demanded little consideration relative to archery. And even the automobile presented no problems, since the resurgence of archery, spacious car trunks, and station wagons were chronologically close together. During popularity of such transportation as the steamboat, trolley car, train and cars of the Model-T and Model-A vintage, there were not enough bow and

arrow types to create any national emergency.

It is true that personal automobiles will get you most places you want to go with the bow. Whether they will get you there and back quickly enough is a car of a different color. Today, national and international competitions, and the lure of other horizons, make consideration of air travel a practical approach. Even within Pennsylvania, which stretches some 300 miles east to west, and 170 or so from top to bottom, there is a lot of space between its extremities.

If the car will get you there, why will anyone bother to get up in the air about it? Two reasons — time and convenience.

Since there are few, if any, who make their living purely from *shooting*

the bow, regular employment imposes restrictions on the amount of time that can be spent away from the job. Further, with the keen competition of today's target line, the archer wants to arrive rested and raring to go. A drive of even a couple of hundred miles isn't conducive to sharpening one's physical and mental faculties.

Air Travel Considerations

The upcoming 25th World Championship Tournament and the 85th National Archery Tournament this August are a couple cases in point. Archers will be heading for Valley Forge from all over the world, and more particularly, from every nook and cranny of the United States. Some will fly. And since it is likely that air transportation is here to stay, a look at some of the considerations relative to air travel would seem to be in order. There are advantages, and there can be problems.

The target archer, who normally carries a longer bow than his hunting counterpart, *must* arrive *with* his favorite pet. Takedown bows, covered in last month's column, offer one answer. Generally, any package which doesn't exceed 45 inches in combined length, width and thickness can be hand-carried on commercial airlines. This means that the normal carrying case for takedowns can be tucked under the seat.

You might talk your way into getting a longer bow case stored elsewhere on the passenger deck, but there is no assurance that you would succeed. Few target archers use less than a 66-inch bow, many use longer, and the minimum package that any of these bows in one piece makes is

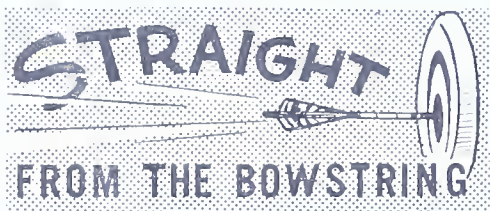
something over five feet. It won't go under the seat!

There are also arrows to be considered. On a recent flying trip, I adapted an Old Pal fishing rod satchel to accommodate over 30 hunting arrows and extra heads. Regular arrow cases are somewhat smaller, but you can't get *two* cases under that seat.

On a hunting trip, which frequently requires considerable extra duff, your problems can compound. You certainly want to arrive with your own archery tackle even though shooting requirements are not as critical as, for example, those of the professional archers who will be heading for some \$20,000 in prizes at Las Vegas next January.

Where do we go from here? If you plan to go by air and you have your smarts, you'll contact the nearest airline ticket office. You will relay to the airline your intentions, your problems and your destination. Be sure you get confirmation that this information has

TWO CASES PROVIDE space for takedown bow and over 30 hunting arrows, give good protection to these important items.



been forwarded to the proper personnel so that you will be expected. You may be pleasantly surprised at how important it is to the airline to accommodate you.

Those who utilize the airlines are aware of some of the rather gruesome handling to which some baggage occasionally is subjected. They also recognize the hazards incident to having their person and their baggage arrive concurrently. Airline officials are not unaware of this.

In most cases when this doesn't occur, it results in a mere inconvenience to the passenger. He can always buy an extra shirt to tide him over until his duffle is located and delivered. But it's a near tragedy if you arrive without your bow and arrows. That's the airline's problem. What condition they arrive in is yours. Pack carefully.

If you get your point across properly, you should have no difficulty. Bear in mind that archers haven't been flooding the airlines with business, and it will take some educating on your part as to the seriousness of this bow and arrow bit. Remember that skiing is not an old sport on its present scale in the U. S., but the airlines have adapted to transporting hordes of these bone-busters.

Aside from making proper arrangement, and having your tackle packed so that it will withstand reasonable handling, there is one important item to help insure simultaneous delivery of you and yours. Place a tag *inside* each piece of baggage listing your home *and* your destination. In the event that the outside tag provided by the airline becomes lost as well as your baggage, the first thing sought will be a clue to where it *should* be. They'll look.

Extra Days Afield

Last August, four of us made a trip to Colorado. We concluded that flying would provide a few extra days afield in the time allotted. Since it was convenient to the most, we decided to



BOXES CONTAINING regular hunting bows went into plane's baggage compartment. Good packing and airline's awareness of careful handling needed assured safe arrival.

leave from Allentown. After our initial approach, there was some scurrying around, and we were provided with what are known as ski boxes. We had a real wad of duffle to pack for the nine-day trip. Kenneth Laubach, who lives near Berwick, State Trooper Don Dvoroznak, of nearby Bloomsburg, and I got in a little group practice. Guy Ekler, of Highspire, who is separated by 100 miles, did a solo on that.

Since our hunting was to be at an altitude of from 8500 to 9000 feet, we needed heavy clothes. A spare bow, in addition to our regulars, extra arrows, sleeping bags, quivers, knives, binoculars, clothes and assorted odds and ends came to quite a package. You are allowed, with your ticket, two bags each on the airlines; there is an extra charge for transporting the ski box. The box, which is 4 x 7 $\frac{1}{4}$ x 85 inches, offered interesting possibilities from the standpoints of both convenience and safety for our tackle. Besides, those words printed boldly in red on the box, *Handle with Extra Care*, were most comforting.

Our first important discovery was that a light, down sleeping bag, unrolled, would slip inside the box. Just



DON DVOROZNAK glumly considers the possibility of a missed flight. It wasn't missed—and he had three steak dinners to buy.

as important, a bow, case and all, would fit inside the sleeping bag. Consequently, we were able to get the most bulky item and the most important item safely inside the *Extra Care* box. In addition, there was room in the end for such items as quivers, boots, etc. As an extra precaution, we taped each end of the box to prevent a mishap.

Although these cardboard boxes make quite a package when assembled, they are folded flat when not in use, and they can be doubled for easier carrying. They are disposable. After our round trip, ours were ready for the flames even though they served our purpose well. There is no charge for the box itself. However, there is an extra ticket charge each way based upon the cost of your flight. Check this with the agent.

The extra bow and my arrows were carried in identical cases, strapped together. One suitcase easily accommodated the remainder of what seemed necessary to me. Maximum dimension for luggage on an airplane is 62 inches overall (length, plus width, plus thickness). We wore casual clothes to cut down on duffle. My

three camera bags were carried aboard the airplane.

Don had rigged an ingenious arrow carrier from a cardboard tube to transport his aluminum arrows safely and conveniently. Extra broadheads he carried in a box fitted with styrofoam to protect the cutting edges and to prevent the heads from rattling around. The same setup worked well for me in the extra space provided in the satchel used to carry arrows.

An amusing for us—and expensive for Don—incident occurred in Chicago when there was a temporary foul-up in our airplane connections. Since our host had no telephone or radio back in the mountains, there would be no way to contact him in advance if we were late. Don was so sure that we wouldn't make it on time that he wagered a steak dinner on the outcome. I had a T-bone, medium rare. Our baggage had no such worries, and we arrived in Grand Junction simultaneously.

On trips in which the plan is to go back into the more remote areas by overland vehicles or light planes, some prior planning should be done relative to the problems of such transport. If the initial flight is by scheduled airline to a point of departure for the bush or the back country, it may be necessary to partially unpack. The ski boxes may be too bulky for the secondary transport. This should pose no real problem so long as the boxes are stored for repacking for the return trip.

Complications

For those who do considerable traveling to their hunting, or even for those planning a once-in-a-lifetime trip, some of the foregoing might help in proper preparation if air travel is contemplated. Use of takedown bows certainly does show up to advantage in such excursions. But, those who have a bow which fits them well, and have no interest in the breakaway offerings, must take into consideration complications that the unwieldy one-piece bow inherits in air travel.

Most of us are inclined to take considerably more duffle than is really necessary. Accustomed to automotive excursions where space is not a prime consideration, we are inclined to load up with really non-essential items which take up space and contribute little to the trip. In many instances, depending upon whether or not additional trips are contemplated, there are somewhat crude but effective substitutes which can be used in place of expensive adaptations to air travel.

The ski box is one of them. But when sufficient archers take to the air, the airlines will naturally incorporate accommodations adapted to this activity. A number of flying trips for sport over the years has convinced me that the savings in time and expenses en route, as well as the over-the-road hazards of personal transportation, make air travel practical.

One Drawback

There is one area in which air transport falls short of personal transportation. That is in the return home of meat and/or trophies. We found that returning venison from Colorado by air freight, the only available method, cost about 35c per pound. This is still economical by comparison with a trip to the local butcher's.

There is one other important consideration from the standpoint of the pocketbook. If you plan to leave on a weekday, or before noon on Friday, and return after noon on Monday, or later on another weekday, you can save a lot of money. In fact, the airline savings on our trip, by careful planning, gave us three extra days of hunting without extra cost.

This is not a pitch for air travel



36,000 FEET OVER SOMEWHERE, Guy Ekler and Ken Laubach enjoy air trip to their hunting grounds. Such travel will also appeal to target archers.

other than the pros and cons listed previously. Maybe you might get air sick. Maybe you might like to see where you are going. Maybe you might like to stop to see an old buddy from the services en route or take pictures of the Great Stone Face atop Mt. Watchamaycallit. Maybe you just like to drive.

Me? I just can't help but be impressed by the fact that I was hunting in Colorado one morning, and at 11 o'clock that evening, over 2000 miles away, I was home. And one of my old Army Air Force buddies from Illinois (whom I hadn't seen since Paris, more than 20 years ago) was there waiting for me.

Mighty Mite

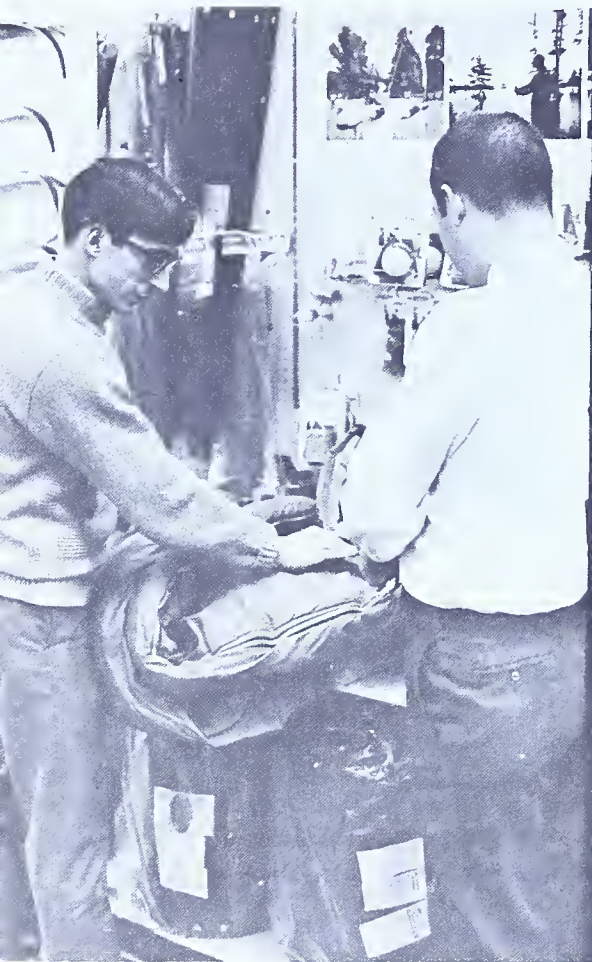
The flight musculature of the tiny hummingbird is the strongest of any bird—one-third its weight.

Prolific

A single egg mass from a female gypsy moth contains from 100 to 1000 eggs.

WHAT'S IN THE BAG?

By Les Rountree



CHOOSING THE PROPER sleeping bag can be a difficult decision. Camper must balance various qualities of each against his personal requirements.

NEXT TO A full stomach, the most important requirement of a successful camping trip is restful sleep. There's nothing more miserable than a tired camper. He grumbles about everything and is generally grouchy. Many an outing has been cut short because of inadequate bedding. The cowboys and explorer types of yesteryear must have been made of very stern material to endure endless nights of misery bundled up in blankets. It seems incredible that they survived

at all. And the Indians! No wonder they lost the war of the west—they must have been sleepy all the time.

Thank goodness for sleeping bags. It's doubtful if camping today would exist without them. No matter what your choice of camping style happens to be, the sleeping bag is your best bet for comfortable nights. Even in a travel trailer, the roll-up bag provides the most convenient bedding available. For the tent or pop-up camper, the sleeping bag is a must.

It doesn't take long for the camper to discover his likes and dislikes in most outdoor equipment. Sleeping bags are probably the major exception to this rule of thumb. You can get good advice about most other varieties of camp gear from other campers, salesmen and, yes, outdoor writers, but sleeping bags are a very personal matter. No two human bodies are exactly the same, physically or chemically. There are long people, short people, stout people and thin people. There are also hot people and cold people. The medical profession tells us that we're all supposed to register 98.6 degrees, but as a camper and a husband, I rather doubt this. (My wife's feet, for example, never exceed 32 degrees!) Your general feeling of warmth is regulated by your metabolic rate. As I understand it, this means the body's ability to transform food into heat and energy. The rate is different for all of us. It explains why you're comfortable in a house that is held at 74 degrees and I'm more pleasant if it doesn't exceed 68.

All of this rambling gets us around to the point that selecting a sleeping bag that will suit you involves a little more thought than selecting other outdoor items. Since there are about umpteen hundred manufacturers in the sleeping bag business, it would serve

no purpose to recommend any specific product. Filling material and construction are the critical factors and the ones by which all bags should be judged. The buyer is confused the moment he steps into the sleeping bag department of any large sporting goods store. There are so many to choose from that he usually winds up holding the bag that was priced right and had the right outside color. And that's just about the worst possible way to select this very important piece of outdoor gear.

Filling Important

The filling that goes into a bag is the most vital component. The top insulating material is waterfowl down, there's just no question about it. After hard use, it bounces back to its original fluffy state very quickly. Its warmth-to-weight ratio beats any other material, and it's much lighter for back packing. It's also the most expensive since, unlike the man-made fibers, we have to depend on ducks and geese to produce it. The next best is polyester fiber. In general, the polyester bags are not so warm or fluffy as the down bags but they do offer an excellent choice to the occasional camper who happens to be allergic to feathers. The next materials down the scale are two other man-made creations, acrylic and acetate fibers. They have some of the "bounce" that polyesters do, but do not offer the warmth. Last on the list are wool, kapok and cotton. These three materials are seen so seldom in stores these days that they really are not worth talking about.

In the mountainous regions of Pennsylvania (where most of our camping is done), as soon as the sun goes

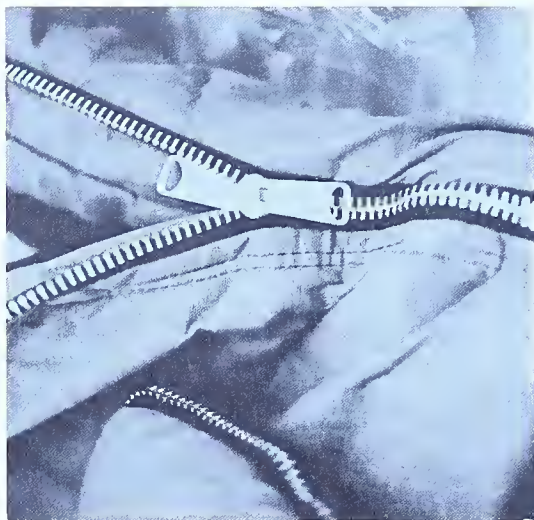


FOR SUMMER USE, a lightweight dacron bag is probably the most popular style. This man-made filler, in a heavy bag, is suitable for average winter use.

down, you can darn well bet that the temperature is going to go down with it. Rolling around trying to find a warm and comfortable position is not a very pleasant way to spend a night. Oh, sure, you can pile on a mountain of blankets, trying to keep a little heat in that bargain basement sleeping bag, but you wake up feeling as if a hippopotamus walked around on top of you all night. It's much more comfortable to sleep snugly in a lightweight bag that does not restrict your movement and keeps you warm. Down or polyester fillers are definitely the best choices for campers north of the Mason-Dixon Line. In fact, they're probably the best choice for anyone. You can be just as cold in Texas or Florida on a clammy night as you can be in Maine. If your bag temperature becomes too warm, just open up the zipper a bit and let in some fresh air.

Most bag makers today rate their products in degrees. That is, a bag will be advertised as being comfortable at





HEAVY-DUTY ZIPPER is a necessity on a sleeping bag. Many are unsuitable for continued use, so examine this closely. Bag should have a weather seal beneath zipper to prevent heat loss.

temperatures down to 20 degrees, 10 degrees, minus 10, or whatever. (Because of each individual's different reaction to temperature, such claims should be taken as guides only, not as absolute.) This comfort range varies with the kind and amount of filler. Given a bag of equal design and construction, one with four pounds of down insulation is certainly going to be warmer than one with only two pounds.

It should be understood that none of these fillers actually supplies heat. That comes from the user's body. Each of us constantly is radiating heat. All the sleeping bag does (or our clothing, for that matter) is to slow down the rate at which this heat is transmitted to the surrounding atmosphere. It does this by the "dead air" trapped within the interstices of the insulating material. The countless millions of these minute air pockets in goose down are responsible for its excellent insulating qualities. Contributing qualities are light weight and "loft"—its ability to spring back after compression (as when tightly rolled for transportation or when slept on); without loft, much of down's insulating prop-

erty would be lost. The same basic principle holds true with the man-made fibers. It's their trapped air that makes them warm; however, they do not trap as much air as down, thus are not as warm.

You've probably reached the point now that you're asking, "All of this information is fine, but how does this help me decide which bag to buy?" A fair question, so let's make some recommendations.

For general camping from late spring to early fall, a down-filled bag with 2½ pounds of filler is just about right for me and I suspect it will suit most people. With the man-made fibers, you'll need about twice the amount of filling material. All the information concerning type of filling, the amount of it, the size of the bag and other pertinent data is printed on a tag that must be attached to the bag. If you don't see the tag that spells out all the information you want to know, stay away from that product. If you intend to be out in really cold weather, you'll have to get a bag that contains more filling. You should also get a flannel liner and an outside cover for your bag if you expect to be out in temperatures that might approach zero.

Sleeping Bag Sizes

If you don't happen to be over 5' 10", you won't have much trouble getting a bag that's big enough. Practically all bags made today are at least 72" long. But if you're any taller than six feet, it's obvious that you must have a jumbo length. The 80" size is the one for you. In the matter of width, 36 inches is just about the minimum I'd recommend for a rectangular bag, and I prefer 40. I like to have room to move around a little bit. Nothing is more frustrating—and at times downright frightening—than to wake up in the middle of the night and find you are trapped face-down in a sleeping bag. For a second, you wonder just where in the world you are!

Traditionally, sleeping bags are of rectangular shape. I suppose they evolved from folded blankets, so this was natural. A couple of decades ago, "mummy" bags started to gain popularity, particularly with backpackers who must watch every ounce and with outdoorsmen who wanted the ultimate in warmth at reasonable weight. These are body-fitting bags that taper snugly along the legs, have a raised end to accommodate the feet of a person sleeping on his back, and usually are enclosed at the upper end by a hood which covers the shoulders and head, leaving only a small opening for the face when all zipped up. They greatly resemble an Egyptian mummy, thus the name.

Mummy Bag Warmest

Pound for pound, the mummy bag is considerably warmer than any other style, as there is less air around the sleeper's body to be heated and the enclosed top is much more efficient at heat retention than that of a rectangular bag. However, when you move your legs or bend your back, the bag must move with you, since you really are in there in a mummy-like fashion. I like to have room to move around a little without waking up, so I don't prefer the mummy bag for general use. However, many campers swear by them, and anyone who is not a restless sleeper should consider one seriously.

Take a good long look at the zipper on the bag you intend to buy. For some strange reason, zippers in this country vary greatly. A lot of them are very bad. They work fine for garments but not for sleeping bags and the kind of abuse that they receive in this kind of service. The bag zipper should be a rugged one and long enough to go completely down one side and across the end of a rectangular bag. This is mandatory for airing out the bag properly. It's also useful for zipping two bags together. On the inside, the zipper should be covered

with an insulating flap of material. This serves two purposes: it keeps out the cold and prevents bare flesh from accidentally coming into contact with an ice-cold bit of metal. If the zipper is exposed on the inside, you can expect to perform some pretty tricky maneuvers during the night trying to stay away from it.

The outer material of the bag is important too. For a long time, green or brown medium-weight army-style duck was the fabric most often seen. It's still a pretty good choice. A bit more expensive and decidedly better is the new rip-proof nylon. In case it matters, the nylon is also available in prettier colors.

Most inexpensive bags are simply two layers of tightly woven cloth sewn

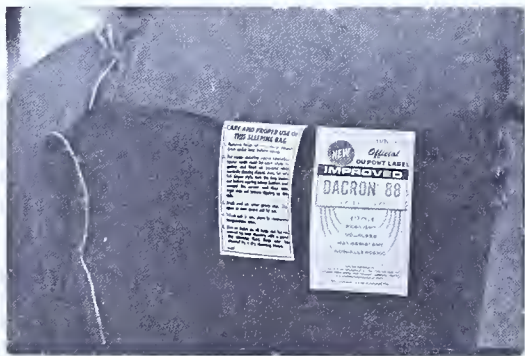


THIS IS DOWN. From northern waterfowl—geese or ducks—it is unequalled as a filler for sleeping bags which will be used in temperatures below zero.

into tubes which contain the insulating material. There are two problems with such an arrangement. First, a rip in the shell permits the filler to escape. Second, there is actually no insulation along the seam lines, as the stitching obviously eliminates any bulk which would contain the necessary dead air. An outer shell eliminates most of the likelihood of tearing, and adds a little warmth, as it traps another layer of

air. Sleeping bags of this design are common for summer use, where the ultimate in warmth isn't necessary.

For cold weather use, you need a bag which doesn't have any "thin spots" along seams or elsewhere. High-grade bags have several systems for avoiding this. One way is to have tubes which are triangular in cross-section; with these, the seam at the top of a tube does not come at the same place as the seam at the bottom. Another system is to use several layers of material above and below the sleeper, with the tubes arranged so that the seams do not coincide. This general style was used in the Arctic-weight mummy bag used by the Army during World War II. Here, two complete mummy bags were used, a lightweight one inside a heavyweight one.



LABEL ATTACHED to each sleeping bag lists weight and type of filler. Potential buyer should read this.

This was a very versatile outfit, as the inner bag could be used alone in temperatures above freezing, the heavier section to about zero, and both together for really cold weather. Several commercial sleeping bags currently available have similar arrangements, and they're hard to beat.

About four years ago, in an excellent article about sleeping bags, joking reference was made to the tent flap hood often shown in illustrations. I heartily concur. That thing is a joke. If you do set up this silly device, you'll find it impossible to climb into your bag without knocking it over.

This addition was apparently thought up by some design engineer whose only outdoor experience was attending the local firemen's clambake.

Mattress Types

For sleeping on the ground, a most desirable accessory for the sleeping bag is an air mattress or foam rubber pad. They certainly do provide for a more comfortable bottom side at any temperature and are a necessity during chilly weather. No matter how thick your bag is, without a mattress of some sort, you'll have aching hips and shoulders when you wake up. The air mattress is probably the most comfortable if you don't blow it up too hard. It should be just full enough to keep your hips from touching the ground. If you blow it up chock full, it's a sure bet that you'll roll off during the night. I used to blow mine up by mouth power until I noticed that my eyeballs were starting to protrude. Then for auto camping I started carrying an old tire pump, and it works just fine. If you want all the latest gadgets, a foot-operated pump is available that is made especially for this purpose. You can also buy compressed air cylinders that do the job in seconds. The foam rubber pads are good too. They don't weigh any more than a deflated air mattress, should last a bit longer, and seem a bit warmer in really cold weather.

What should you pay for a sleeping bag? For Pennsylvania camping from May until September, a good quality bag filled with 2½ or three pounds of down will cost from \$45 to \$65. That's for the bag alone, minus the liner or outer cover, if wanted. A comparable polyester filled bag with four to six pounds of insulation will cost \$25 to \$35. Acetate and acrylic filled bags that will be okay down to about 45 degrees will run about \$15 to perhaps as much as \$25.

As you go down the temperature range toward zero and below, the only thing for the serious camper to con-

sider are 100 percent down filled bags. Naturally, you are going up in price, as the going rate for northern goose down, gathered during the prime winter season, is about \$10 per pound. Expect to pay in excess of \$75 for any bag containing say, 3½ pounds of down. In fact, the really well made ones of a weight suitable for extremely low temperatures—like 50 below!—will cost over twice that. But most campers really don't need this kind of gear. When it gets that cold outside, it's much cozier to sit by the fire and think about your next camping trip.

Cleaning Methods

Don't forget to air your bag after each trip. It may not be the most pleasant subject in the world, but human beings do have an odor, and a sleeping bag that has been used for a full season and tucked away without an all-day session in the sun on the clothesline will be a bit gamy come spring. It's a good idea when camping to open up your bag each day and expose it to the sun for a few hours. Nature can deodorize better than all the sprays known. Follow the cleaning instructions that came with the bag. Some will stand washing and some won't, so make sure you're doing it right.

Two final don't's! Don't ever leave a small child or baby alone in a sleeping bag. Some tragic cases are on record that prove the wisdom of this advice. And don't ever smoke in a sleeping bag unless you are camped right beside a stream or lake and can roll in if you have to. I once saw a careless pipe smoker almost go up in flames before he could free a stuck zipper. It's a bit funny to recall, but at the time he failed to see the humor in it.

Believe it or not, there is a new dis-



DOUBLE MUMMY BAG of type used by Army in the Arctic. Down-filled, it has proved comfortable in the snow at 35 below. Outer shell of nylon protects it from wear.

posable sleeping bag on the market now that is made of heavy duty paper and filled with some sort of plastic foam. They sell for about \$4 and will last for at least a weekend during warm weather. I'm not recommending them for any use other than emergency purposes but they might prove handy for the long-distance hiker who really wants to go light. I understand the bag weighs only two pounds. This one might be a good item of disaster gear to carry in your boat, car or airplane.

Gotta Keep Chewin'

The ground mole will die in approximately one day if deprived of its food.





GONE FOR THE DAY

By NED SMITH

April brings a belligerent titmouse, a red fox family and a silent woodcock on his singing grounds, as well as some spooky-talkin' great horned owls and gorgeous wildflowers . . .

LAST EVENING I collapsed with a sigh on an ancient log at the edge of a mountain clearing. The afternoon hike had been a long one, and I leaned back against a handy tree trunk, closing my eyes in complete and welcome relaxation.

The effect was like slowly turning up the volume. Sounds I hadn't noticed with my eyes wide open gradually came pouring in loud and clear. The gurgling of the run at the bottom of the hill sounded surprisingly close. I could hear two different grouse drumming—one on the ridge behind me, the other far down the valley. A gray squirrel squalled at his neighbor. Across the valley—surely a mile away—a pileated woodpecker cackled excitedly, and a cardinal off to the right provided almost constant background music. And through it all there was a continuous undertone of small sounds—a blend of distant bird songs, the rustle of leaves, the steady chucking of a chipmunk. Not until a woodcock came to life with a loud and utterly unbirdlike bleat did I realize, without opening my eyes, that it was time to head for home. I got to my feet and looked about me, and all but the most conspicuous sounds of that April evening receded from my consciousness as before.

April 2—Grouse take advantage of

whatever the season provides—and they rarely go hungry. Late this afternoon I watched three of them teetering on the highest branches of some aspen trees as they fed on the newly expanded catkins. Grouse are not the most nimble creatures afoot. One bird lost her equilibrium in spite of some energetic flapping and landed awkwardly on a lower limb, but she went right back to the business of filling her craw.

*April 3—*I mimicked the whistled *Tee-yo* of a tufted titmouse and brought the belligerent little male on a beeline from the other end of the swamp. He glared down at me from an overhead branch, wings quivering with indignation, and challenged my every whistle with one of his own. When his mate arrived on the scene the jealous little male chased her back. Obviously, he had no intention of letting me win her heart with a lustier song than his own.

Tiring of the game I started over the causeway. The titmouse accompanied me, *Tee-yo-ing* tirelessly and shooping his mate on ahead.

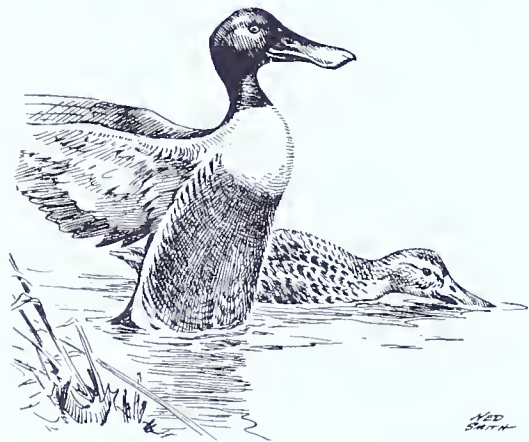
*April 4—*I drove up to the Dockey farm this morning to see the red fox den Steve had told me about. Mr. Dockey pointed out the old railroad fill about 150 yards up through the

field where the fox had enlarged a complex of groundhog holes and moved in with her five pups. Originally they had occupied a den beneath an unused brooder house.

We soon detected some activity and I set up the 20-power telescope on a tripod in time to see the pups gather on the mound of soil at the front entrance. It was like having a front row seat. The pups were the personification of perpetual motion, continually wrestling, tumbling over one another, biting and pawing. Even when alone they found amusement in investigating a fly, tossing a stick into the air, or batting at a springy twig.

They appeared to be about six weeks old. Their tails were ropy, their coats woolly and short, with little of the adult's rusty tinge. The feet, too, were paler than those of a mature red. But their eyes had that unmistakable foxy expression.

SHOVELLERS



While I watched, the vixen suddenly appeared at the front door, and the pups set upon her with enthusiasm. For several minutes she endured their mauling. Then she slipped from their midst, trotted down the far bank and up the hill on the other side. There she picked up a large, brown object and carried it back to the den, where the youngsters crowded around and presumably sampled it. The brush

was too thick to see all that was happening.

"What did she pick up?" I asked my host, who was watching through binoculars.

"I couldn't tell for sure," he replied, "but it looked like a chicken I put there yesterday. They're suspicious of chickens," he said. "Most of the time they leave them for two or three nights before they'll pick them up."

The foxes remained on the other side of the bank for about a half hour, then retired underground.

April 7—Jack and I went to the old farm below Shull's this evening to make some tape recordings of woodcock on the singing grounds. One male showed up on schedule and made several classic flights, but didn't utter a single beep.

The trip wasn't a total loss, however. Hearing a pair of great horned owls on the far side of the pine woods we called them into the nearby trees and got some surprisingly good recordings of their spooky conversation.

April 9—The ground beneath certain red maple trees is red with blossoming twigs cut down by gray squirrels. I caught one in the act today, only about twelve feet above the ground. Instead of pushing the panic button he merely looked foolish, and after a minute or so he reluctantly descended the tree with a twig still clamped in his mouth.

Farther on I spied another squirrel in an equally small maple. He was so completely occupied with nipping off twigs that he didn't spot me until I was practically beneath his perch, whereupon he froze in a sitting position. I walked completely around the tree to get a clear shot with the camera and he never moved a whisker. Even after tramping noisily through the woods to check a drumming log and returning, I found him still sitting there as in a trance. However, a sharp bump on the tree trunk was like pull-

ing a trigger. He shot from the limb and bounded from sight through the treetops.

April 10—I had just set up the telescope this morning when the red fox vixen came out of the den, followed by the pups. While they waited on the bare ground at the main entrance she trotted down to a water-filled ditch in the field and got a drink. On her return she got the usual chewing and mauling until she lay down in the sunshine and nursed them for a few minutes. Then she sneaked underground for a little peace and quiet, leaving the youngsters to play outside.

An hour later she reappeared, followed to the foot of the bank by the fearsome five. Again she trotted out into the field, but this time to hunt mice. She had not gone far when a rustle in the grass caught her attention. She pricked her pointed ears and leaped into the air, coming down with all four feet together. But the mouse escaped in the thick grass. Her buoyant tail, pointing skyward as she landed, settled to the ground as gently as a furry balloon. She started out again, only to whirl about and pounce on a tussock. Two quick snaps of her jaws and a fat meadow mouse was hers.

The pups were waiting for her. When she dropped the mouse one grabbed it and ran up the bank, followed by the roughneck pack. I never did see which one ate it—all that could be distinguished was a writhing mass of rear ends and waving tails.

Again they curled up at the den entrance to sleep, but one by one they awoke and disappeared inside the hole until only the vixen and one pup remained topside. Neither the old fox nor the pup slept soundly. Several times a minute one or the other would look about or restlessly change its position.

At one time the pup's attention was drawn to a spot on the side of the bank. I couldn't see a thing then, but

a short time later a cock quail appeared, feeding toward the den. As I watched breathlessly he crossed the bare ground about five feet from the two foxes. The pup had fallen asleep, but the old female opened her hazel eyes and, without raising her head from her paws, watched him mosey



by. Soon afterward she and the pup joined the others in their underground den.

We had set up a low burlap blind in the field opposite the front entrance of the den and I sneaked up that way, intending to try for some pictures of the pups when they came out again. All was quiet around the den, and I had every expectation of entering the blind undetected. That expectation was shattered, however, when I noticed the face of the male fox peering at me through a screen of small sumacs. Where he came from I'll never know—he didn't live with the rest of them—but by strolling nonchalantly through the field I got a long-range picture of him before he trotted up the far hillside. He stopped several times and looked back—a handsome picture in his luxuriant rusty coat and black stockings—then continued on out of sight. Mr. Dockey later showed me an enlarged groundhog hole in a fencerow across the hill where he believes the male makes his home.

April 12—My brother stopped in for a few days, hoping to add some new species to his excellent collection of wildflower slides during his visit. On the heels of botanizing trips to such faraway places as the Gaspé Peninsula and the Virgin Islands his chances of finding anything new in our area seemed slim indeed. But the north side



of Mahantango Mountain was a veritable wildflower garden, and I was delighted to learn that he had no satisfactory pictures of squirrel corn, which was just opening there. The unusual flowers, resembling ivory-white bleeding hearts, contained pearl-like beads of moisture that showed through their transparent edges—perfect subjects for super-close-ups.

The wake robin was still in bud; so was the wild columbine that swarms over loam and rocky cliff alike. And there were acres of Dutchman's breeches in full bloom, plus the immaculate flowers and deeply veined, gray-green foliage of the bloodroot, strange little wild ginger flowers, and the largest trout lilies we had seen anywhere.

April 18—Our entire quota of April showers has been squeezed into the past few days—or so it seems. What a dismal, unrelenting deluge! But too much rain is just right for some pur-

poses, and for duck-watching it is perfect. The lowlands along the river are pretty well flooded, bringing the wild ducks and geese in off the river where we can see them close at hand.

This morning I watched a pair of little shovellers, popularly known as spoonbills, in a field above Millersburg. They employ a strange technique in feeding—swinging their huge bills from side to side as they cruise the shallows to scoop up water and strain out the food particles through the sieve-like grooves, or lamellae, on the edges of both mandibles.

Ornithologists are fascinated by the shoveller's resemblance to the teal in size, conformation (except for the out-sized bill) and erratic flight. Shown the wing of a shoveller the average duck hunter would immediately (and mistakenly) recognize the pale blue coverts and deep green speculum as those of a blue-winged teal. The hen, too, closely resembles the female blue-wing in almost every respect but her bill.

April 19—I nearly missed the ostrich fern fiddleheads this year, and that would have been a pity. Fortunately, a handful of tightly coiled latecomers were found among the thousands of mature fronds on the river bank, and we had them for supper tonight. Properly cooked in a change of water and served on toast, they are the equal of the tenderest asparagus. They are such superior food that I rarely bother to pick the fiddleheads of other ferns.

April 22—Baby cottontails, even pretty small ones, are nobody's fools. Hiking down the mountain road this afternoon I happened to glance down at the uneven ground. There between my feet crouched a little rabbit, trying his best to hide. He had obviously been surprised out in the open, so he flattened out in the only available hiding place, a deep hoofprint left by a horse someone had ridden down the road several days earlier.

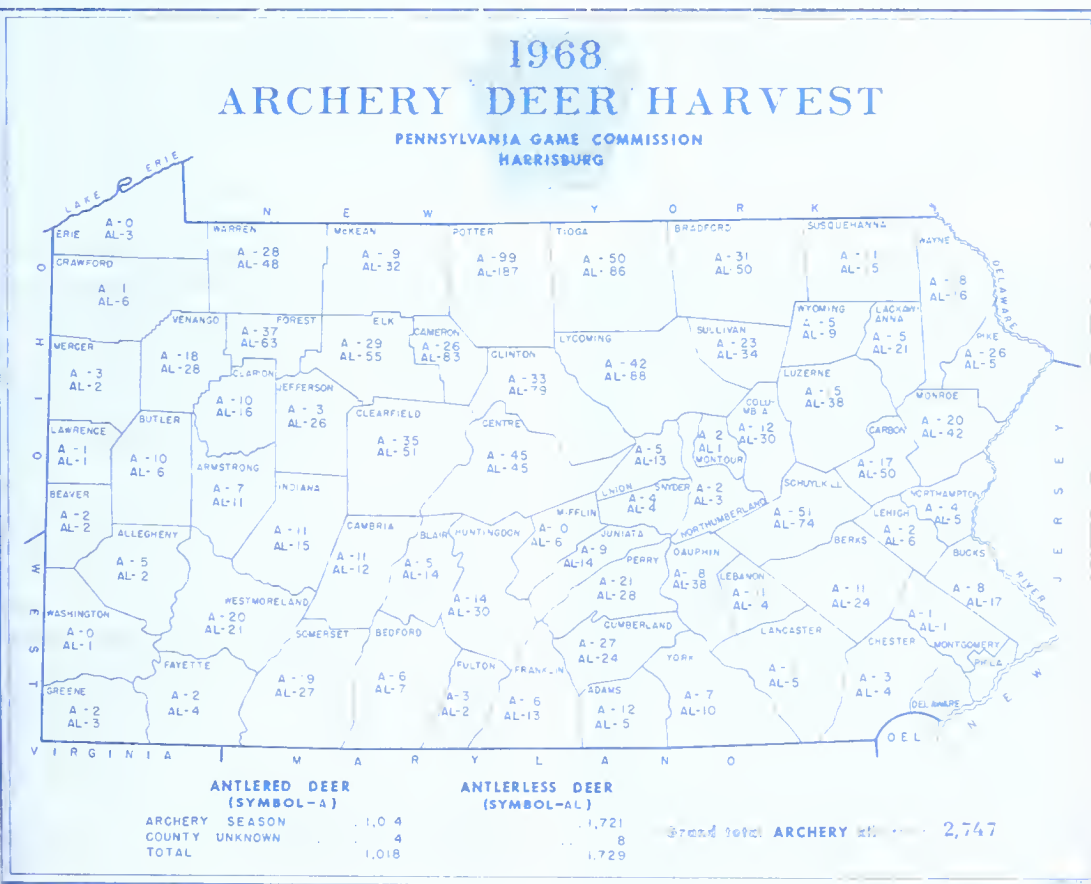
April 29—Our birdlife at this time of the year is a strange mixture of something old and something new. The "old" birds are those winter visitants which are still with us. This morning more than thirty evening grosbeaks spent a couple of hours shucking sunflower seeds at my feeder. Considering that they'll probably travel one or two thousand miles before they nest they don't seem to be in a hurry to leave. The same could be said of the white-throated sparrows. They are in full breeding plumage now—crowns boldly streaked with jet black and pure white, and a brilliant yellow spot in front of the eye. In a few weeks they'll be singing their plaintive notes from the spruces on some northern Ontario lakeshore, but so far they seem contented in Cumming's Swamp.

By comparison, a woodcock I know has been incubating for at least two

weeks, and a grouse we've been watching from the Deiblers Gap Road has been sitting on her eggs for a week and a half. The fledgling great horned owls on Dividing Ridge have been out of the nest for over a week.

Newcomers are arriving daily, among them the vanguard of warblers. Yesterday I saw two Cape Mays in the grape arbor and a few more yellow warblers in scattered places about town. Ovenbirds are making themselves heard in the mountains, and the ear attuned to such sounds will detect the weak notes of the myrtle warblers and the black-and-whites.

The robin in our backyard has the best of two worlds. She is attending five greenish-blue eggs in the spruce tree, but at least once a day she sneaks around the house and fills up on suet that was intended to keep our winter birds happy.





DON'T DO THIS! Ron Lantzy illustrates most common mistake shooters make in "cleaning" guns—squirting oil indiscriminately into action.

The Road to Disaster Is . . .

THE WELL-OILED RIFLE

By Don Lewis

Photos by Helen Lewis

"I BROUGHT it to you early so you'd have plenty of time to fix it by next season," the elderly man said as he handed me a well-worn Savage 99 rifle.

"I'll have to agree that you did just that," I answered. "This year's big game season is just one day old."

"I'm not one to delay things. The minute it failed this morning, I decided to bring it to you immediately. I know it needs some new pieces, and it takes a lot of time to get them from the factory. Much as I'd like to use this old warrior, I'll finish the season with one of my other outfits."

"What happened this morning that made you feel that new pieces are needed?"

"Well, for one thing, this rifle was bought way back in the depression

days. I've used it every season for nearly 35 years, and it just has to be worn out inside the action. I missed a nice buck this morning, and when I tried to lever in another round, the gun seemed to be jammed. I couldn't get another shell to feed. The rotary carrier has to be worn out."

"You know, a good cleaning might solve the problem," I said as I examined the rifle.

"No, I'll disagree on that," he answered quickly. "I've oiled this rifle faithfully. I honestly can't think of a day that I hunted with this old rifle that I didn't oil it the minute I brought it home. The problem is in the feed mechanism."

"I'm not trying to throw cold water on your argument, but I'd like to point out that even though you've

had this rifle for over 30 years, I don't think it's worn so much that new parts are needed. If you fired three boxes of shells each year from this 99, it adds up to less than 2,000 rounds. . . ."

"I never fired any three boxes a year," he cut in. "More like three boxes every five years."

"That strengthens my argument," I reminded him. "A fine rifle such as this one, with reasonable care, would fire many thousands of rounds without wearing out the parts."

"You think what you want to," he told me with a note of anger in his voice. "If I were you, I'd get out my catalog and order the new parts. I think we'll both be happier."

Well-Oiled Outfit

Ordinarily, I avoid such disputes, but this man must have caught me at a moment when I felt like sticking with the argument. I told him that if he had the time to wait, I'd try to prove that the rifle needed a good cleaning instead of new parts. He was just as adamant as I was, since he said he'd be happy to stay all night just to see the look on my face when I found out he was right.

While I was working, the man kept assuring me that he was one shooter who thought enough of his equipment to keep it well oiled. He recalled several cases where friends of his had ruined good guns through neglect. He stated with pride that he had always taken the time to see that a generous amount of oil had been squirted into his rifle.

When I got the rifle apart, the trouble was obvious. The spring-loaded end of the rotary carrier was a solid mass of sludge and grime. A thick coating of green corrosion covered most of the brass carrier, and gobs of oil-soaked dirt choked the entire action. It was a wonder the rifle hadn't failed years before. I pointed all this out to the man, who looked on without comment.

Using a large pan and some mild cleaning solution, I soaked and scrubbed all the parts thoroughly. I blew the excess solution off with over 100 pounds of air pressure. I removed the corrosion from the carrier with my electric wire brush. In less than an hour, I had every piece of this rifle, including the receiver housing, clean and dry. As I assembled the parts, I brushed on a very light coating of thin gun oil and liquid graphite. I put several small drops of liquid graphite in the spring assembly of the carrier. When I had finished, I handed the man a rifle that was as good as the day 35 years ago when it had left some sports shop. Using dummy shells, I had him work them through the rifle to be sure everything was in top condition. He admitted he'd been wrong and was appreciative that I had done the job so quickly for him.

What this man didn't know—and there are thousands who think the same way—is that oiling a rifle is not

ANOTHER MISTAKE—cleaning a bolt action rifle from the muzzle. If not careful, rod will wear ends of lands, affect accuracy. Wherever possible, bore should be cleaned from action end.





AN OLD SHAVING BRUSH is handy for applying a thin coat of oil to exposed metal surfaces, can also be used to clean dirt from tiny crevices in gun.

cleaning it; there's a whale of a difference.

When the fall winds begin to blow in Pennsylvania, it's common to be asked if your guns are "oiled and ready to go." For some reason, the emphasis is put on oil. I've heard this question phrased in dozens of ways during the last 25 years, and every time it's the oil that gets the spotlight. After disassembling hundreds of guns, I'm sure that nearly everyone in Pennsylvania does the same as the man I've mentioned who squirted oil through his rifle after every hunt. When I tore his rifle apart, I knew he was telling the truth. In fact, his generosity with the oil can had cost him a second shot at a buck.

During the past three years, I know of four cases where an over-oiled gun failed to function. Each gun was brought in for retirement or repair. When I got the owner's love-and-care oil out of them, all worked perfectly.

What most hunters can't accept is that oil in a firearm is more of a rust

preventive than a necessary lubricant. The car engine turning at high speed needs oil to reduce friction and wear; this is not true with the firearm. Actually, most guns will work without any oil in them. I can't think of a place in any firearm where oil should be applied generously. The man whose Savage failed had been pouring oil into the rifle's innards for years. All he was doing was carrying the excess dirt and grime deep into the action. Eventually the rotary carrier was choked with sludge and grime.

Oil Affects Wood

Oil is detrimental to wood. Over a period of time, wood screws lose their gripping surfaces, and the sharp edges that hold the action firmly in place become rounded and the gun shoots loose. I've seen this many times in double barrels, and the only answer is to purchase a new stock. Most old guns show signs of excessive oiling. Instead of preserving your shotgun or rifle, you may be shortening its life span when you douse it with oil.

I've often been asked how often a hunting firearm should be completely cleaned. There is no exact time, but I suggest at least once every five years if the gun is subjected to normal hunting wear and tear. When I say cleaning a firearm completely, I'm not talking about squirting some grease or oil into the action and running an oily patch through the barrel. I mean to completely disassemble the gun and clean, dry, and apply a very light coating of oil or liquid graphite to all metal surfaces. This is a job for a gunsmith, and the customer should realize that it's a job that requires several hours. Between such major cleanings,



the owner can field-strip his firearm when necessary and use preventive maintenance to help keep his firearm clean.

Most hunting guns come apart in two or three major pieces. Bolt action rifles can be field-stripped by removing the two or three machine screws in the bottom of the rifle. Most bolts come out by releasing a catch on the side of the receiver, and the owner has his rifle in three pieces—the barreled action, the stock, and the bolt. Using an old toothbrush, the dirt and grime can quickly be removed. A few drops of oil are enough for a thin coating of oil on almost every part of the gun. When assembling the rifle, pull all the screws evenly and make them as tight as possible. Sometimes I shoot the rifle several times and then re-tighten the screws. As for taking the bolt apart, it depends on the particular rifle. Some are simple, others are complicated. In general, I would suggest you leave well enough alone. Several drops of liquid graphite in the bolt will normally keep it in top-notch condition.

Lever Actions Complicated

Lever action rifles are more complicated. The 94 Winchester and the 336 Marlin are not the most difficult rifles to disassemble, but I believe your local gunsmith would be the man for the job as far as an overhaul goes. Here again, the owner can remove a lot of dust and sludge by working an oily rag through the opening in the action. The 88 Winchester's stock can be removed easily enough, but the owner should not attempt to go any further. Not too long ago, a man brought me a box full of gun parts. It seems his grandson had taken the notion to clean granddad's new 88 Winchester. He was certainly thorough in taking the rifle apart, but for two weeks they worked in vain to get all the parts back in place. When they brought it to me, they had decided it was one gun that couldn't be put to-



SWINGING OUT BOLT STOP permits withdrawal of bolt from rifle action. Bore can then be cleaned from rear, as it should be.

gether. It took me awhile, and I had to make a device to help me get it together, and I reminded the young fellow when he came after the rifle to get a little training before going into the gun business.

The 760 Remington allows the owner to get to practically everything but the bolt. Two pins in the housing above the trigger can be removed, and the entire trigger assembly can be worked out of the receiver. Using an oily rag and a brush, 90 percent of the gun can be cleaned, and the trigger assembly can be brushed and cleaned. Actually, I think it is one of the easiest guns to clean.

The Savage 99 has to have the stock removed to get to the working parts. It's simple enough to remove the butt pad, but loosening the stock bolt screw can lead to some sad results. I think this stock is the easiest to crack I've ever seen. The strange part of it is that it is easier to crack when putting back on the rifle than when removing it.

The old 35 Remington can be field-stripped by loosening the thumb screw on the side of the action and sliding the stock out of the receiver. The bolt comes out easily enough, and most of



M760 REMINGTON dismantled as a gunsmith would do it for complete cleaning. Few owners can—or should—strip a rifle this far, as special tools and thorough knowledge are required.

the rifle can be cleaned in a matter of minutes.

Shotguns are not difficult to field-strip. Almost all hunters can take any double barrel or single apart without any trouble. Most pump and autoloading shotguns have a locking wheel at the front end of the magazine. Loosening the wheel permits the barrel to be rotated a half turn and removed. Further disassembly should be done by a gunsmith.

Tools and Knowledge

The reason I keep suggesting using the services of a gunsmith is that he not only has the tools but the knowledge. Gunsmiths grind or file their serewdrivers to fit each screw. This is a must unless you want a gun that is seratched and marked by a sloppy fitting serewdriver. Another thing, if the serewdriver blade does not fit the screw precisely, the slot in the serew will round out until it has no slot in it. All sorts of deviees and "blind pins" have to be made to get some guns baek together.

Cleaning the barrel of any gun should be done with care. I'm against wire brushes and violent lead- or rust-

cutting agents. A wire brush can break off in a rifle barrel, and it's next to impossible to remove. The shotgun barrel doesn't need the brush, and if it's pitted, the brush won't help it anyway.

For best results, give your barrel a good serubbing with hot soapy water, followed by *hot* clear water. Run a few patches through the bore to remove any water droplets. The temperature of the water should have been high enough that it made the barrel metal hot to the touch. This heat, after the standing water was removed, will dry the barrel. One or two oily patches should then be shoved through the bore. Whenever possible, the cleaning rod should be run through the barrel from the action end toward the muzzle, to avoid damage to the lands at the muzzle end. This is easy with a bolt action, but difficult or impossible with some other designs. If you must clean from the muzzle end, be very eareful that the rod does not mutilate the lands. This affects aeeuracy adversely.

Don't Plug Barrels

When you store your guns, don't plug the barrels to keep dust and dirt out. All the dust and dirt that could fall into a barrel couldn't be seen on a pieee of white paper, and it's possible someone might not see the plug and fire the gun with disastrous results. Any bore obstruction can be dangerous.

The main thing to remember is not to ruin your gun with kindness. Keep it clean and lightly oiled. An applieation of good wood wax on the stock, inside and out, will preserve the wood indefinitely. A routine cleaning now and then, along with a thorough overhaul every few years, will keep all your guns in tip-top shape. When your hunting gun is in this eondition, you might not hit every time you shoot, but at least you'll get a shot every time you pull the trigger. That's more than you can expect of a gun that's had the old oil treatment!

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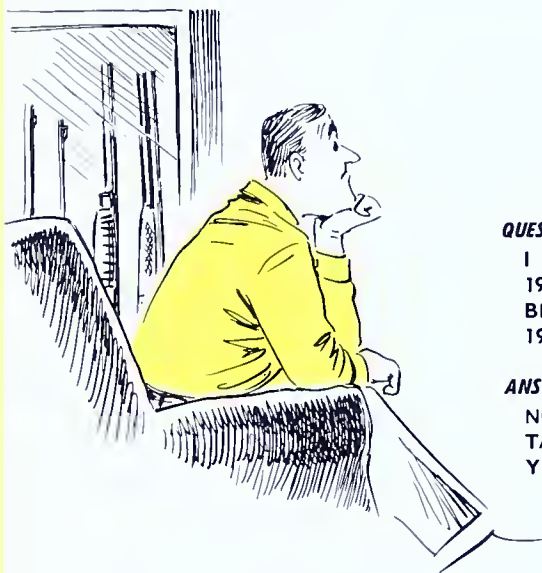
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IT'S THE LAW



NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.



QUESTION:

I KILLED A TURKEY DURING THE 1968 FALL SEASON. MAY I KILL A BEARDED TURKEY DURING THE 1969 SPRING SEASON?

ANSWER:

NO. ONLY ONE TURKEY MAY BE TAKEN DURING EACH LICENSE YEAR (SEPT. 1, 1968-AUG. 31, 1969).

QUESTION:

MUST A TURKEY TAKEN DURING THE SPRING SEASON BE TAGGED?

ANSWER:

YES. ALL TURKEYS MUST BE TAGGED WITHIN ONE HOUR AFTER KILLING, AND BEFORE MOVING, WITH THE TAG PROVIDED WITH THE HUNTING LICENSE.



Pennsylvania

GAME NEWS

MAY, 1969

FIFTEEN CENTS



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COVER PAINTING BY RON JENKINS

Pennsylvania has scheduled its second spring gobbler season this month, May 3-10, Sunday excepted. A large turnout of hunters is expected, for those who took part in the initial season last year were overwhelmingly enthusiastic about this new sport. Apparently all made plans to be in the woods again this spring, and all convinced their friends to do likewise. A real thrill is waiting. The wild gobble of one of these wily, majestic birds, knifing through the mists of dawn, makes a hunting memory to be cherished forever. You be there . . . hear it too.

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All There Is . . .

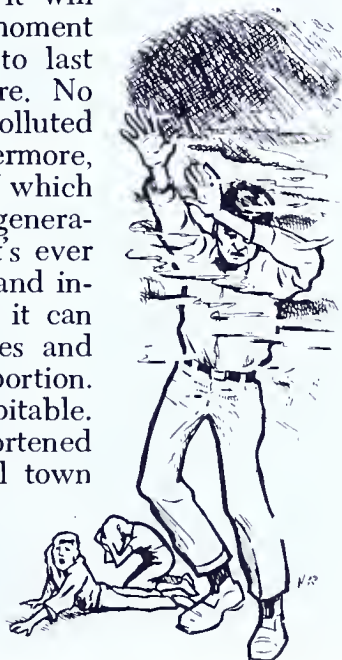
SOME TWENTY TIMES a minute, every minute of our lives, waking and sleeping, from the moment we were born, you and I have performed and will continue to perform until the instant we die a physical act so routine that many of us have never given it a thought. We have breathed. Without this act, we would be dead in minutes. We might go for a month without food, a week or more without water, but without air we cannot live ten minutes. We spend every moment of our lives within a few breaths of eternity.

Knowing this, it would seem reasonable that we feel some concern about the (so-called) invisible, odorless, tasteless mixture of gases which we inhale. But we don't. At least not much. Until, perhaps, the act of breathing is no longer a routine thing handled by our unconscious, but rather a desperate, choking struggle which must be won *now*, or be forever lost. Medical statistics prove that more and more of us are losing this gruesome struggle too young.

We all know our physical lives are going to end some day. We all believe there are certain things worth risking—even trading—our lives for. But should we be willing to trade our lives, our children's lives, for a bucketful of garbage? In effect, that's what we are doing every time we light a match, smoke, drive with an inefficient muffler, cause a forest fire. . . . Little by little, these things add up, until in a year's time we have sent 150 million tons of pollution into the air over the United States. For the most part, that's where it stays, to be breathed by us.

Did you ever stop to consider that the air we have—the six- or seven-mile-thick blanket around the earth—is all there is? Well, that's the truth. The earth is actually a self-contained spaceship, and when its essential resources are gone or irretrievably spoiled, life as we know it will cease. The air you and I are breathing at this very moment has been here since time immemorial. And it has to last forever. It's all we have, there just isn't any more. No "fresh" air streams in from outer space, none of our polluted air escapes through some galactic window. Furthermore, there is no known way of cleaning what is here. All of which means that our air—miserable as it is only these few generations after the Industrial Revolution—is as clean as it's ever going to be. Even if we eliminate the auto exhausts and industrial pollutants which are the main offenders, all it can get is worse, particularly as our population increases and each of us, even if inadvertently, contributes his tiny portion. Right now, most of our cities are literally uninhabitable. The life span of every person in them has been shortened by this pollution, and it has had an effect on small town and rural dwellers also, though possibly to a lesser extent. This we must accept. No one can change the past. But it's irrational not to learn from it—and if we do, the future may be with us longer.

—Bob Bell





When the Gobblers Call Me!

By Don Neal

I'M GOING GOBBLER hunting this spring. When spring warms the air and the buds on the sugar maples are beginning to swell, I'm going to be out there searching for those big old trophy birds. For the second year in a row. I tried it last year, during Pennsylvania's first spring gobbler season, and I'm going back this May. I'm not the only one who feels this way. Everybody I know who got afield during the 1968 season is determined to give it another whirl this year—plus all their friends who somehow missed the boat the first time and have cursed their luck ever since. I'm as determined as anyone. With perhaps better reason than most. My bird is still out there . . . waiting for me. Let me tell you about it.

In the first place, I'll have to outline the circumstances. Working for a morning paper, it's unusual if I feel the foam pillow of my bed before 3 or 4 a.m. This makes me a little more than slightly inclined to enjoy the comforts of said bed until at least noon. I then usually spend an hour or two idling through my mail, making a few phone calls, and absorbing between six and eight cups of strong, black coffee. This done, I'm ready to start stirring about. Under normal circumstances I wouldn't alter this routine to see Lady Godiva ride down the street in front of the house.

But Bob Ent had something more exciting than a woman riding a white horse to offer, so I made an exception.

I first met Bob when he won a Triple Trophy award and I was called to interview him early last year. There was no doubt in my mind that here was one of the most knowledgeable

hunters I had been around in a long time. I stretched him out on every possible facet of hunting and we finally got around to talking about the upcoming spring gobbler season. It was just a week away at that time.

Bob told me about spending a lot of time locating some really worthwhile toms and the fun he was having doing it. Each of his experiences whetted my appetite more and more. I wanted to get out and have some of this fun myself. So when he asked if I would like to go along on opening morning, I quickly accepted the invitation, although a cold that had been hanging on left me feeling miserable.

5 A.M. on the Dot

It was 5 a.m. on the dot when his horn sounded that morning. I still don't know how I ever faced the world at such an hour with but a single cup of coffee under my belt, but I stumbled through the morning mist to the Jeep, handed in my cased gun and crawled in after Bob's friend Tom moved over to make room for me. My eyes were still half closed in spite of a cold water washing, and if my mind had been functioning I'd probably have realized what a fool I was.

But things brightened a little as we crossed Glade Bridge and headed out of town. Mostly because Bob and Tom were laying the day's plans and talking about the four gobblers they had called in at the one place and the brash old gobbler that had strutted up within a few feet of them at another. Just the thought of getting a glimpse of any one of these old boys speeded my blood circulation.

Bob knew right where he was go-

ing. He swung from the main road to enter a woods road and eased the Jeep into four-wheel drive for the rutted condition of its surface. The slashings on either side weren't more than a year or two old. This was, I told myself, an exact duplicate of "the old briar patch" where I'd had a lot of luck with turkeys years ago down in Huntingdon County.

We traveled a mile along the woods road, perhaps, before Bob turned the Jeep from the road and stopped it beneath a large hemlock. We dismounted, got our equipment and walked farther down the rutted course as it wound its way into a deep valley, finally stopping on a narrow bench halfway to the valley floor.

For a time we waited in silence. Then Bob started to call. At first the clucking of his box call was so soft that I wondered if a turkey more than a stone's throw away could hear it. But Bob hadn't sounded the pleading message more than three or four times before an answering gobble came from far across the valley.

After a short, whispered discussion, Bob and Tom decided that the distance was too great to bring this gob-

bler in. So we made our way back to the Jeep and were soon on the main road making our way to a spot farther up the valley on the opposite side.

After hiking to a new location, Bob resumed calling. But now the soft coaxing clucks failed to bring a response, so the tone of his calls became more insistent. Finally, a gobbler answered from somewhere well out in the slashed-over thickets. Bob didn't answer this response immediately, so again a long drawn out gobble came loud and clear from the interested tom.

War of Nerves

I would have answered at once, but Bob didn't. My nerves tensed more and more as I waited for him to test the gobbler's attention, and I breathed a great sigh of relief when he finally raised the box to call again. I was certain that by this time this particular gobbler must have made up his mind that the lady just wasn't interested.

But I was wrong. The soft clucks from the box brought an immediate response. And by now it was easy to determine that the gobbler was moving in our direction. We exchanged knowing grins, then Bob motioned for Tom and me to move out ahead so that we would get the first glimpse of the approaching turkey.

Tom and I selected a spot behind a felled treetop a few yards ahead of Bob. It offered excellent cover. The only problem was that to get an unobstructed view we had to sprawl on the ground and peer out beneath the mass of its severed trunk and dead limbs. We settled ourselves to await the oncoming tom.

He was gobbling frequently now as he moved closer and closer, and Bob was teasing him a bit with the answering calls so that his excitement seemed to be getting more and more noticeable. "Another 50 yards," Tom whispered. I nodded my head.

By now I was hoping it wouldn't be much longer. The early morning air



hadn't dried up the night's dampness and the ground was cold. I could feel a chill working into my body and an asthmatic tightness filling my chest. If the old boy didn't put in his appearance soon I'd be forced to wash the whole deal out.

But the next gobble made me forget my discomfort. He was close—*real* close. My eyes strained to pick up the first sign of movement in the underbrush ahead, and I could sense Tom's excitement too. He seemed to be pushing his body deeper and deeper into the forest debris beneath us. Was it 40 yards . . . 30 . . . even less?

I'll never know. For I was suddenly seized with a fit of coughing that in the silence of this spring morning would have scared the devil out of his wits.

Bob and Tom took this calamitous turn of events rather calmly, I thought. At least if they were inclined to do me any bodily harm their actions belied their feelings at the time. And it was quickly decided that we would rest this bird for a time, then try again to bring him in.

We whiled away a half-hour or more, then Bob started to call again. At first there was no response, but after a long series of Bob's most insistent calls the gobbler answered again from the other side of the valley. Several calls and many answers later he was still in the same position, so Bob and I decided to try to work our way over to where he was.

I have never made a more interesting stalk in my life. It was no problem to get almost immediate answers from the gobbler, but after we had crossed the valley and were approaching his domain it was quickly apparent the old boy was being cagey. As we attempted to get within sight of him, he



I'LL NEVER KNOW how close that gobble was, for I was suddenly seized with a fit of coughing that would have scared the devil out of his wits. . . .

wouldn't move away from us, but to either side. For an hour or more Bob and I played hide and seek with this old tom before we gave up and called it a day.

On the way home the three of us planned to have another go at this gobbler before the season came to an end. But for one reason and another we failed to get together again. Yet in spite of the fact that I coughed this particular expedition into complete disaster, they have invited me out again this spring.

And I'll be there, you can bet on that. For of all the pleasurable and exciting fall turkey hunting experiences I have had in the past, this spring gobbler calling has something special about it that makes other hunting flat and dull. As Tom said on the way home that day, "When you have this much fun hunting it almost makes you want to miss any shot that's offered, so you can go on calling them, doesn't it?"

And I guess it does!

First Spring Gobbler Harvest

Pennsylvania's first spring gobbler season in May, 1968, resulted in a harvest of at least 1500 of these fine game birds, according to the Pennsylvania Game Commission.



CONTOUR STRIP FARMING in Lancaster County. This is effective in controlling erosion and increases "edge" areas which benefit wildlife.

Soil and Water Conservation . . .

One Way to Better Hunting

By Ralph W. Ruble
State Soil Conservationist

THOUSANDS of Pennsylvania farmers have improved the wildlife habitat on their land during the past three decades. The Soil Conservation Service of the U. S. Department of Agriculture estimates that as of June 30, 1967, more than 30,000, (36 percent) of Pennsylvania farmers have improved the food and cover on their land for game birds and animals and other wildlife. These farmers operate more than 4,000,000 acres (37 percent) of the farmland in the state. This improvement in habitat has provided more and better hunting for Pennsylvania sportsmen who enjoy this form of sport.

Most of these farmers are cooperating with their Soil and Water Conservation Districts. They have devel-

oped soil and water conservation plans for their land with technical assistance from the Soil Conservation Service and through cost-sharing from the Agricultural Stabilization and Conservation Service. These plans include many practices which are beneficial to wildlife.

Pennsylvania farmers have improved wildlife habitat on several hundred thousand acres of their land during the last 30 years. The major conservation practices begun during this period are soil erosion control and water conservation. These are beneficial to game birds and animals.

Cover crops, such as ryegrass or field brome grass, seeded in row crops after the last cultivation, provide cover to protect the soil from erosion. They

also provide cover and food for wildlife until they are plowed under in the spring. Managing crop residue so that it is left on the surface of the ground is favorable to wildlife and protects the soil. Food for game birds and animals is reduced when grain fields are disced or plowed after harvest. Cover crops have been seeded or the crop residue managed on about 311,500 acres. This amounts to an area almost the size of Montgomery County.

Stripcropping is the farming of fields in narrow strips on the level or across the slope. Row crops, small grain and hay are alternated in the strip so that no two adjoining strips are in row crops the same year. This method of farming is very effective in controlling erosion and greatly increases the amount of "edge" between different types of cover. This is beneficial to wildlife. An Ohio study shows more than double the number of ground nesting birds were found on strip-cropped fields as compared to non-stripped fields. To date, approximately 884,000 acres are being farmed in strips. This is equal to 249 strips 100

SOD WATERWAYS carry runoffs from rain safely across cropland. Straw mulch is cut in with disc before seeding.



THIS MULTIFLORA ROSE living fence is six years old. Note height compared with man. It is excellent game cover.

feet wide across the state from east to west.

Sod waterways are established and maintained in field depressions to carry the runoff from heavy rains safely across the cropland. These waterways are maintained in grass the year around. They provide cover for wildlife to use when moving from one field or strip to another. They also provide valuable nesting areas. About 14,460 acres have been established in grassed waterways. This amounts to 137 grass strips 30 feet wide across the state from east to west.

Hedgerows Make Difference

The difference between high and low wildlife populations on any two farms may result from the condition of the field borders and hedgerows. Brushy fence rows and low-growing woodland borders provide excellent wildlife cover and nesting areas.

Hedgerows are rows of shrubs planted within, across or around a field. They provide wildlife food and cover. They also provide travel cover between woodland and open areas. Low-growing woodland borders can be established by cutting and felling large and tall trees along the edge of the woodland. Removal of these trees prevents shading of adjacent cropland.



THOUGH PLANTED FOR commercial use, these pruned evergreens also provide cover for wildlife while growing.

This practice stimulates the growth of the remaining shrubs and vines, which produces more food and a more desirable cover. The new reproduction and sprout growth also add to the wildlife value of these edges. Approximately 2480 miles of these hedgerows and borders have been established. This is equal to eight borders and hedgerows across the state east to west.

Supplemental Food Areas

Many areas on farms are being planted to crops or plants for the primary purpose of providing food and cover for wildlife. These supplemental food areas are particularly helpful during severe winters. They may mean the difference between an abundant or limited game supply. The planting of a few rows of corn along field edges provides an excellent source of food. Many small isolated fields and odd areas are being planted to sorghum, millet, sunflower or other grain crops. Some of these areas are being planted to perennials such as sericea and bicolor lespedeza. Other areas are planted to shrubs which provide food and cover. About 178,900 acres have been planted for wildlife food and cover. This amounts to an area more than twice the size of Montour County.

Thousands of acres of land that are

not too well suited for crop, hay and pasture use are being planted to evergreen trees. These plantations provide excellent cover for wildlife, protect the land from erosion and provide an income to the landowner. Some of the more severely eroded areas are being planted to grasses and legumes or shrubs. Approximately 305,500 acres have been planted to trees. This is equal to an area about the size of Sullivan County.

Supplemental Income

The farm woodlot provides a habitat for many species of wildlife. Properly managed woodlands are providing supplemental income to many farmers. The mature trees are harvested and the remaining growth is improved. The removal of trees allows the sunlight to reach the woodland floor. This stimulates sprout growth and growth of blackberries, raspberries, dogwoods, grapes, greenbriers, and other plants valuable to wildlife as food and cover. Woodland harvest cuttings have been made on about 159,600 acres of farm woodland. This amounts to an area almost twice the size of Monroe County.

Farm ponds and reservoirs are used by many forms of wildlife. A study of

PROPERLY MANAGED woodlot gives supplemental income to many landowners, as well as benefiting game.



farm ponds in Pennsylvania showed that they were used by 20 different species, including aquatic furbearers, of course. Fifty-two percent were used by waterfowl and deer used 15 percent for drinking water. Approximately 9530 ponds and reservoirs have been constructed. In area, these equal an 8500-acre lake.

Conservation Plans

The Soil Conservation Service is assisting about 3000 additional farmers and landowners each year, through Soil and Water Conservation Districts, in developing conservation plans for their land. The installation of the practices called for in these plans will result in additional improved habitat for game birds and animals and other wildlife. Hopefully, in the not too distant future, most of the remaining farmers and landowners will have developed conservation plans for their land which will further benefit wildlife and provide more and better additional hunting.

Thus far this is the bright side of the coin. Now let's take a look at the other side and see what is happening to farmland in the state. The number of farms and the acreage in farms have been gradually decreasing since 1900. This rate has been growing during the last two decades. For example, the U. S. Census shows that the number of farms in the state dropped from 128,176 in 1954 to 83,086 in 1964. During the same period, the acreage in farmland decreased from 13,162,093 acres to 10,803,983 acres. This is a decrease of 2,358,110 acres in the short period of 10 years. This land is lost for hunting because most of it is now being used for non-agricultural uses such as highways, urban and industrial developments, and other similar uses. Estimates indicate that another 1,380,000 acres will go out of



THIS CAN BE ONE result when full consideration is given to soil and water conservation geared to all aspects of the outdoors.

farmland to non-agricultural uses by 1978. This means that over 3,738,000 acres will have been lost to hunting between 1954 and 1978 or a short period of 24 years. We can only guess what the next few decades will bring.

Must Improve Habitat

The decline in agricultural land results in fewer acres per hunter, usually less game, and increased hunting pressure on the land remaining open. If the quality of small game hunting in the state is to be maintained at the present level, the wildlife habitat on the remaining land in farms must be improved and made more productive. The improvement of habitat on the remaining farmland would go a long way toward offsetting the loss of acreage. This has been done on about 36 percent of the farms. These farmers are to be complimented for the splendid job they have done. Hopefully, this type of habitat improvement can and will be made on the remaining 64 percent of farmland in the years ahead.

Native American

The only hoofed animal having its origin in North America is the pronghorn antelope.



BUCK
RIPPER

The Four-Century Story of . . .

AN OLD WHITE OAK

By William C. Grimm

Part Two

THROUGH THE YEARS the oak tree provided a place for many of the forest animals to make their homes. Gray and fox squirrels often built nests of leafy branches and in them reared their young. Wood pewees saddled their shallow, cup-like, lichen-covered nests on its limbs. Wood thrushes made mud-plastered nests which were lined with fine rootlets. Red-eyed vireos hung cup-like woven cradles from the forks of its branches. And several times ruby-throated hummingbirds—the smallest feathered denizens of the forest—built their dainty nests atop one of its limbs.

Late one winter a pair of red-tailed hawks chose the oak as a place to build their nest. They began carrying sticks to the tree and soon had a platform built among its branches some fifty feet above the ground. They kept on adding sticks until they had a bulky nest more than two feet across. Last of all they lined it with strips of grapevine bark and a few fresh hemlock sprays. Before the end of March it held a pair of dull bluish-white eggs which were slightly spotted with brown.

For about four weeks after the eggs were laid, the female seldom left the nest. The male hawk often perched in trees nearby, or soared in effortless circles high above the treetops. Even from a height of several hundred feet, his keen eyes could detect the movements of a squirrel or a mouse. Then he plummeted earthward to catch the unlucky rodent in his needle-sharp talons. After the eggs hatched, both parents carried food to the young, who greedily devoured whatever was brought. For some weeks after the youngsters left the nest, they accompanied their parents about the forest. By midsummer they were sailing aloft with the old birds, circling high above the tops of the tallest trees.

For several years the pair of red-tails continued to use the nest they had made in the oak tree. Each spring it was repaired and

refurnished with shredded bark and fresh hemlock sprays or pine branchlets. But late one winter when they returned to their old nest, they found that it was already occupied by a pair of great horned owls. The hawks were unable to evict the ferocious owls. They had to go elsewhere and build another nest.

The owls came to the hawk nest about the middle of December. Nightly they proclaimed their right to it and to that part of the forest by their deep-toned calling, *Who, whoo-hoo-hoo, whoo, whoo*. They were savage birds who seemed to fear no other creature living in the forest, not even the skunk. Even the panther and black bear shied away from that small animal, for they respected its potent weapon of defense, but that did not in the least deter the great horned owls. Skunks, like all of the other

What Went Before

While on a hike years ago in southwestern Pennsylvania, the author noticed the stump of an old oak. He was fascinated by thoughts of what must have happened in the area during the tree's 400-year lifespan, and this story is based on that idea. In Part I we learned how the tree grew from an acorn planted by a jay; how as a seedling it by chance escaped destruction when a whitetail doe killed a rattlesnake here; how it grew from a seedling into a strong 80-foot tree whose own acorns helped feed the area's wildlife during a period when the forest stretched interminably and the streams were pure and cold. Deer, bear, elk, wolves, bison and other animals populated this area, countless geese and ducks flew over, and an Indian tribe established a village around the oak. After a half-century, they moved away, leaving the old white oak alone in its clearing. . . .

smaller creatures of the forest, were killed and greedily eaten by the powerful birds.

Shortly after the middle of February, the female owl lined the old nest with some of her own downy feathers. Then she laid her three eggs. Several times both she and the edges of the nest were covered with snow. Almost every night the temperature fell below freezing, and several nights it dropped nearly to zero. But the mother owl managed to keep her eggs warm. Just before the end of March the nest held three downy young owls.

It was many weeks before the young owls were big enough to leave the nest. Every night the parents hunted tirelessly to keep them supplied with food. They brought mice, shrews, rabbits, skunks, weasels, and birds of all kinds—even many of the crows and blue jays which tormented them during the daytime. It took a lot of food for the three growing young. They were always hungry.

One night in early May a very large mink came loping along the bank of the stream. For several years this part of the forest and the stream had been his private hunting ground. He knew all of it well, and he had successfully defended it against all rivals of his kind. As he neared the oak tree, he suddenly left the stream. It was his intention

to cross the hill and go down the valley of a small stream on its far side. Many times in his nightly wanderings he had taken the same course. But now he was not aware of the male owl who was perched in the oak tree.

The mink was startled by a menacing shadow rapidly approaching him. Instinctively he dove for the safety of a nearby woodchuck burrow. He was part way in when he felt a sharp pain just above his tail, and he found himself hopelessly pinned to the ground. The big owl had sunk the talons of one foot into the lower part of the mink's back and was dragging him out of the hole. Snarling, the agile mink fought back viciously.

As the owl tried to bring his powerful bill toward the back of the mink's neck, the animal whipped about. He sank his teeth into the owl's heavily feathered throat and by chance one of his sharp teeth punctured the owl's jugular vein. He tasted blood and clamped his jaws in a vise-like hold. Over and over they both rolled, but neither would release his grip. For both it was a life or death struggle. The owl gradually felt itself growing weaker from the loss of blood; the mink began to weaken, too, as the owl's sharp talons tore into his vitals. It was a battle in which there was to be no victor. By dawn both were dead. Neither had released his grip on the other.

HORNED OWLS feared no other creature in the forest. Skunks, like others, were greedily eaten by these powerful birds.



ONE DAY WHEN the oak was about two and a half centuries old, two strangers appeared in the forest. They were men but they were not Indians; and they were leading strange-looking beasts with large packs on their backs. The men were white traders who had come from the English settlements beyond the mountains. The packs on the horses were filled with guns and ammunition, brightly colored beads and cloth, and iron pots and pans. At the Indian villages they intended to trade these things for furs and hides of the forest animals. Most of the white traders were welcomed by the Indians. They were quite pleased with the goods the traders had to offer. But the traders often brought a liquid which was very bad. When drunk it made them lose their senses.

Other white men began to cross the mountains, too, but they had nothing to trade. They came into the Indians' hunting grounds to slaughter the bison, wapiti and white-tailed deer. They killed the animals merely for their hides which they sold back in the Eastern settlements. They ate but

little of the meat, leaving the carcasses to rot or be devoured by wolves and vultures. The Indians despised these white hunters and their wasteful killing. Soon all of the larger game animals of the forest would be gone. The Indians then would have no meat and the Great Spirit would be angry.

Time after time the Indians caught these white hunters stealing in their hunting grounds. Whenever they could, they took away their horses, rifles, and the stolen hides. They warned them time and again to go home and come no more to kill the game that the Great Spirit had given to the Indians.

The white hunters, however, always felt that such treatment by the Indians was an outrage. They called them murderous savages and thieves. To their way of thinking, the Indians had no right to the land or the game that lived there. They had no intention of abandoning such a profitable business.

BY 1750, the Indians had lost their ancestral hunting grounds east of the mountains. Some of it the white people had obtained by honest purchase. But much more had fallen into their hands by force and through sheer fraud. The white settlers had made many treaties with the Indians but they were kept only until the settlers found it convenient to break them. Only the treaty they had made with William Penn had never been broken. Now, both the English and French were quarreling over which of them should have the Indians' land lying west of the mountains.

The French had built a series of forts from the forks of the Ohio northward to the Great Lakes. When the Royal Governor of Virginia learned about it he was very angry. He sent a youthful surveyor, whose name was George Washington, and a frontiersman by the name of Christopher Gist on a long journey through the trackless wilderness. They carried a message to the French commander at Fort Le Boeuf demanding that the French leave the country. The French commander politely refused.

Little more than a year later, Washington was sent with a regiment of Virginia militiamen with orders to halt any advance by the French down the Ohio River. Near the Great Meadows, on the high plateau between Chestnut Ridge and Laurel Hill Mountain, they surprised a party of French from Fort Duquesne. There, on April 27, 1754, shots were fired which touched off a



TIME AFTER TIME, the Indians caught white hunters in their hunting grounds. They warned them to go home and not come again.

war between two old enemies; a war which spread not only over eastern North America but to the West Indies, India and Europe.

The Indians hoped that the English and French would not do their fighting on their land. They realized that no matter which of them won, the Indian would be bound to lose. Their experiences with the English had been far from pleasant. Thus it was easy for the French to convince many of the red men that they were their friends. They succeeded in getting many of the young warriors to take up the hatchet against the English enemy.

ON A PLEASANT July morning in 1755, a party of young Indian warriors paused to rest beneath the big oak tree and drink from the nearby spring. Two of them were sweating under the brilliant red coats of British regulars, although the day was not yet hot. One warrior brandished an English officer's sword. Several carried British muskets. The jubilant warriors were on their way home. Two days before they had taken part in the defeat of a large and well-equipped army led by British Major General Edward Braddock.

Braddock had been the very model of an eighteenth-century major general. He

had won renown on the battlefields of Europe. Nobody ever doubted his courage or ability. But he was vain and arrogant, and he haughtily dismissed Washington's advice about the Indian method of fighting. He had nothing but contempt for the colonel's Virginia backwoodsmen, and he waxed indignant at the very thought of their boyish leader trying to tell him how to deal with the French and Indians.

Progress through the wilderness had been painfully slow. Axemen had to cut a path so the artillery and wagons could advance. Braddock had grown impatient, but finally, on the ninth day of July, they arrived at the bank of the Monongahela. The French commander at Fort Duquesne was half prepared to abandon the fort and flee, but one of his captains begged permission to attempt an ambush. He was given a party of one hundred and eight French officers and soldiers, one hundred and forty-four French-Canadians, and some six hundred Indian warriors.

DOWN TO THE riverbank the redcoats marched in perfect formation, keeping step to the fifes and drums. Barely had the advance guard begun to wade the shallow ford when they ran head on into the greatly outnumbered enemy. Guns cracked. Cannon roared. Volley after volley of shot from the dark forest began to thin the British ranks. They were being mowed down by an enemy they could not even see. Panic-stricken, Braddock's well-drilled army milled about in mad confusion. They were firing wildly; some ran away. In trying to bring a semblance of order out of the chaos, Braddock rode into their midst, cursing, beating men with the broad side of his sword, finally even cutting some of them down. Four times, horses were shot from under him. Suddenly, he felt a piercing pain in his groin. He tumbled to the ground and his men ran past him. The panic had become a rout.

When the wounded general recovered consciousness, Washington and another aide were standing over him. In vain, they had tried to get the fleeing soldiers to carry their fallen leader from the field. Finally, they carried him to safety. Braddock begged them to leave him. He did not care to live. How could he ever explain such a defeat by a handful of Frenchmen and red savages?

Turkey vultures were circling above the field of battle as the battered remnant of a once proud army struggled back the trail by which it had come. Four days later they had set up camp for the night on the plateau

near the Great Meadows. As Braddock lay on a litter gazing up at the stars, he muttered, "Who would have believed it?" He took a deep breath, then his eyes closed in death. From somewhere in the fastness of the forest a barred owl hooted eight times. It was a mournful requiem.

Three years later, in the fall of 1758, the British tried again to take Fort Duquesne. This time the army of British regulars, Scotch Highlanders, and Virginia militiamen was under the command of General John Forbes. And along with it was Colonel George Washington.

When the French commander learned about the coming of the army, he hastened to his old Indian allies. "The English are coming to destroy both you and me," he told them. "I therefore desire you immediately, my children, to hasten with all your young men. We will drive away the English and destroy them."

After finishing his speech, he offered one of the chiefs a string of wampum. The chief refused to take it, telling the commander that the Indians had no fear of the English, but they dreaded the "Long Knives," as they called the Virginians. On hearing this, the French commander threw the wampum into the fire.

With a long stick another Indian reached into the fire and flung the string of wampum toward the French commander. "Give it to the French captain," he shouted. "Let him go with his young men. He boasted much of his fighting. Now let us see his fighting."

The French realized that their Indian allies had deserted them. They could not hope to stop the British army by themselves. The French flag was lowered at the forks of the Ohio. Fort Duquesne was set afire. The French fled.

THE INDIANS had their hopes raised when the English king forbade settlers to enter the Indian lands west of the mountains. But soon the British turned over both the fort they had built at the site of Fort Duquesne and the fate of the Indians to the colonies. Both Pennsylvania and Virginia claimed the land and the governors of both colonies issued proclamations forbidding settlement, but more and more settlers came over the mountains into the forbidden land.

One summer afternoon a number of these people came along the old trail. Most went on down the valley, but one family lingered at the big oak tree. The father and two older boys had been walking. The mother



GENERAL BRADDOCK FELT a piercing pain and fell from his mount. His men ran past him. The panic had become a rout.

and a small boy and baby girl had ridden a horse. The man had led a pack horse which carried their meager possessions: some tools, a few pots and pans, some seeds, blankets and a bit of food and extra clothing. One of the boys had led a cow.

The following day the man and older boys began to clear a piece of land where the Indian village had been. Like the Indians, they girdled many trees, but they too spared the big oak. In the clearing they built a small but fairly comfortable log cabin. The next spring they intended to plant a garden between the standing dead trees.

These settlers, like the Indians, depended upon the forest for a living. They hunted the elk, deer, turkeys, squirrels and other game to provide themselves with meat. They caught fish in the stream. In summer they picked wild berries and other fruits, and in fall they gathered heaps of chestnuts, hickory nuts and walnuts. Hides of the elk and deer provided buckskin for moccasins, shirts, breeches and dresses. Those of the panther and black bear made excellent rugs and robes.

For a long time they lived in constant fear. The Indians had gone on the warpath.

The father and both boys always kept their rifles ready. At night they took turns at standing watch. But after a year passed and they had experienced no danger greater than a few rattlesnakes, they began to feel more secure. Other settlers had built a stout stockade a few miles down the valley where the Indian village once stood. The occasional Indian who called at their cabin, or they met in the woods, seemed friendly enough. An aged squaw had even taught the white woman many of the old Indian ways of doing things. They began to feel less need for precaution and at nights the whole family usually slept.

ONE JUNE evening they went to bed as usual, little realizing that a party of Indian warriors had stealthily surrounded their cabin. They were suddenly awakened by a blood-curdling war whoop. The man and both boys grabbed their rifles. By the light of the moon, the older boy aimed at a warrior who stepped from behind the trunk of the big oak. His rifle cracked and the Indian fell. He rolled over the ground a couple of times, then was still.

In an instant Indians swarmed into the

clearing. Some tossed firebrands that set the cabin roof afire. The father realized it would be impossible to stay in the cabin. There was a slim chance some of the family might escape if they made a dash for the forest. They ran. As he came out the cabin door, the father fired at an Indian, but was himself felled by an arrow before he could reload. The oldest boy got but a short distance from the cabin when two warriors tackled him, and one killed him instantly by sinking a tomahawk into his skull. The mother, carrying the baby girl and leading the small boy by the hand, almost got to the edge of the clearing. She tripped and fell and a warrior grabbed her. Only the second largest boy managed to escape. A shot narrowly missed his head as he dashed like a frightened deer into the dark forest.

Early the next morning the boy arrived exhausted at the stockade. It was some

moments before he could tell the men there what had happened. After they heard his story, several men set out for the boy's home. The ruins of the cabin were still smoldering when they arrived. Lying in the clearing were the bodies of his father and brother. But there was no trace of his mother or the two young children. Apparently they had been carried off as captives by the Indians. Sadly, the men dug two graves beneath the spreading branches of the big oak tree.

Within a few years the forest began to reclaim the clearing where the cabin had stood. It grew up first in a dense patch of blackberry briars and later in young trees. All traces of the two graves gradually disappeared. The fate of the pioneer family that had lived for a few brief years by the big oak was forgotten.

(To be concluded)

AAA Says Cars Killed 365 Million Animals

The American Automobile Association says that U. S. motorists kill one million animals a day. "We kill more game with our cars than our hunters do with guns," the AAA said. The report said that in 1968 at least 365 million animals, most of them wildlife, were struck and killed by vehicles in the United States.

Book Review . . .

Single Shot Rifles and Actions

Frank de Haas is a practicing gunsmith and a prolific gunwriter who has had a lifelong interest in single shot rifles, so perhaps it is natural that he has produced this big, fact-filled book. It is divided into four sections—Major U. S. Rifles, Minor U. S. Rifles, European Rifles and Modern Rifles—and 55 chapters. Each chapter covers one make or model of single shot rifle in exhaustive detail. The book begins with the famous Sharps Side-Hammer, circa 1848-1880, and concludes with the Ruger Number 1, introduced in 1966. Between these are the Ballards, Peabody-Martinis, Remington Rolling Blocks, Winchester Falling Block, Stevens, Farquharson, Fraser, and many others. Besides a general history of each, there are photos of disassembled actions, parts lists, and excellent cutaway drawings that show each part's location and function. Items of special interest, such as set triggers, are shown separately in closeup. There are photos of each basic rifle, and numerous photos of custom target or varmint rifles built on these actions. An excellent reference book. (*Single Shot Rifles and Actions* by Frank de Haas. The Gun Digest Co., 4540 W. Madison, Chicago, Ill. 60624, 1969. Paperbound, 342 pages, 8½ x 11, \$6.95.)



THESE NESTLING BLACK VULTURES were photographed in York County, Pennsylvania, in May, 1966, by the author.

The Black Vulture in Pennsylvania

By Donald S. Heintzelman

Assistant Curator, Natural Science Section, William Penn Memorial Museum

AT A TIME when some birds of prey, notably the bald eagle and the peregrine falcon, are rapidly declining in numbers if not threatened with extinction, it is heartening to know that other raptors are actually expanding their breeding ranges. One such species, which only recently has become a nesting bird in Pennsylvania, is the black vulture. Traditionally, of course, black vultures lived in the warmer southern portions of North America, as well as in Central and South America and on Trinidad. Here in Pennsylvania, they were visitants in some of our southernmost counties.

Throughout their range they perform valuable services to man by carrying out their role in nature as scavengers. Recently, for example, I observed dozens of black vultures on a palm-lined beach in Trinidad, West Indies. These birds were remarkably tame due to the protection which the fishermen who lived beside the beach gave them. The men learned a long time ago that vultures are natural carrion disposal units which quickly and efficiently remove discarded fish thrown onto the beach. In a similar fashion here in the United States, black vultures carry out their role in



Photo by Don Heintzelman

BY JULY, 1966, the nestlings' fuzzy down was being replaced by feathers, as shown here.

nature's sanitation force. At one time these birds were extremely valuable servants in disposing of carrion in the streets of many Southern cities. When they congregated around butcher shops, for example, they became quite tame just as the birds were on the Trinidad beach.

Although black vultures have been recorded as far north as Nova Scotia on an accidental basis, it is only since 1952 that the species is known to have nested in Pennsylvania. In that year, a nest was found near the historic Gettysburg battleground. The next black vulture nest from Pennsylvania was found in a southern York County cave in 1966 by an outstanding naturalist, Theodore R. Hake. When Ted and I visited this nest on May 23 of that year, we found two downy vultures about 12 days old. They were on the floor of a small cave located part way up the side of a deep ravine. As we photographed them, the young birds hissed continually, slowly lowered their heads, and regurgitated the contents of their crops. This is a typical defense tactic used by this and other species of vultures.

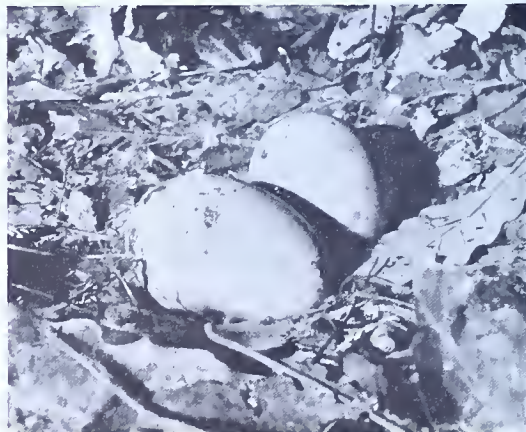
After banding and photographing the birds, we quickly left the nest site to avoid creating too much disturbance. However, three additional trips were made to the nest during 1966, the last on July 5. By then, the young vultures were well developed. We estimated that they were about 55 days old, and soon to leave the nest. This prediction was based upon information presented by the great American ornithologist Arthur Cleveland Bent, who stated in one of his books that young black vultures leave their nests when they are from 60 to 74 days old. So far as we know, our birds successfully departed from their nest in York County.

Curious Habit

It is a curious habit of many birds of prey to return to the general vicinity of their previous nests, if not the same nest site, to renest in subsequent years. So, in 1967, we were interested to determine if the vultures would again select the same cave for a nest site. Early in spring, Ted visited the cave and found two eggs under incubation, but on another visit they were broken. The nesting attempt was a failure. However, we kept in mind that birds of prey will often make a second nesting attempt if the first set of eggs is destroyed. And so, on a third visit to the cave, Ted discovered

EGGS OF THE black vulture were deposited among scant collection of leaves and twigs in York County cave.

Photo by Don Heintzelman



that the vultures had laid another clutch consisting of two eggs. On May 31, the vulture was still incubating her eggs. They were placed upon some dead leaves on the floor of the cave as in the previous year. No nesting materials were used, although the dead leaves which were naturally lying on the floor were arranged into a circular pattern. Some feathers from the parent bird also were placed next to the eggs. Realizing that incubating birds are sometimes easily frightened, we quickly took a few pictures then departed.

All went well after our departure, for we found two little nestlings about three or four days old on June 14. Typical of the species, the down which covered the birds was pale cinnamon in color, whereas that of nestling turkey vultures is snow white. On our last visit to the nest on July 12, the young birds were about 32 days old and large enough for banding. In 1968, the vultures again nested in the cave and raised two young.

As a result of our banding efforts, six black vultures reared in Pennsylvania now wear numbered bands of the U. S. Fish and Wildlife Service. We look forward to this species continuing to nest in Pennsylvania in the future and to banding more nestlings.



Photo by Alvin E. Staffan

THIS BLACK VULTURE, a young adult, is annoyed about something—maybe having his photo snapped!—as shown by his raised hackles. These birds are highly efficient at disposing of carrion—sort of a natural sanitation force.

Book Review . . .

Recognizing Flowering Wild Plants

William Carey Grimm is an outstanding botanist with the gift of writing in language anyone can understand—a highly important quality when dealing with a subject which can be beautiful to look at but dull to read about. Grimm's book leads quickly to a fuller understanding of the plants we see, and thus to a greater appreciation of them. It fully describes over 900 plant species that grow east of the Mississippi, and has some 700 illustrations. But what makes it particularly useful to the layman is an easily used reference key. To identify an unknown plant, it shows how to begin with the immediately observable individual characteristics of the plant and leads through selective choices which eliminate all incorrect possibilities. With this book, anyone can soon learn more about the plant life in his environment than results from simple observation. Highly recommended. (*Recognizing Flowering Wild Plants* by William Carey Grimm, Stackpole, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 1968. \$7.95.)



CHUCK
RIPPER

Sometimes You're Glad You Missed!

By The Reverend George L. Harting

IT WAS BLEAK in Pike County on opening day. Jim pulled up his collar against his neck, adjusted his ear muffs and timidly admitted that bear hunting was a lonely business. Turkeys are Jim's "long pants suit"; he takes one almost every year and now he wanted to expose himself to a new dimension of Pennsylvania's varied hunting opportunities. That's how it happened that we found ourselves "huffing and puffing" over Bear Trap Mountain to take stands at 5:30 a.m. last November 25.

It was exceedingly quiet this morning; the lack of acorns and mast in general convinced us that Bruin and his tribe had migrated to areas unknown. For 25 years I had been in pursuit of Pennsylvania's most cherished trophy — often coming close enough to taste success but always falling short of the goal. From a vantage point overlooking a Pocono swamp I had kept the top of a stump warm for two unsuccessful days one year. I was chagrined to learn that a newcomer bagged his bear there on the third day when I vacated it for a more likely spot. On another encounter I stationed a buddy, assuring him I would be back in two hours. The first half-hour found him potting for squirrel when Bruin walked out. In frantic maneuver he replaced the small shot with rifled slugs only to exhaust his supply of three without a hit—and with Bruin still in close range.

Through recent years I could not forget the stand where six seasons earlier a cub walked up to me. Here I stationed myself on last year's opening day—again without success. By noon the appearance of four bucks punctuated my morning and, admit-

tedly, my thoughts were a week away on the opening hour of the antlered deer season. A blinding flash sleet storm at 2:00 p.m. clinched the argument that we should call it a day.

But Jim, an incurable outdoorsman, had come many miles for his first bear hunt and was not about to leave at this time of the day. The sun was already low in the west when we planned for a last hour overlooking a favorable laurel swamp. By this time the bulk of hunters had left the woods and the silence was interrupted only by an occasional distant shot.

Two Rapid Shots

Then it happened: two shots rang out in rapid succession near the far end of the swamp. To me they seemed routine, but in an instant I felt betrayed by my eyes as a huge hulk of bear appeared over the distant crest, approaching with what seemed like the speed of an express and the thunder of a freight.

My cover was a huge cluster of beech tops remaining from recent lumbering operations. From this complicated position, I proceeded on the impulse of the Dutchman in our area who in his dialect explained, "Not shot is also missed." After the massive hulk of black had run an arc around me at 100 yards and disappeared over the ledge to my right rear, I was both glassy-eyed and four cartridges poorer for the encounter.

Dazedly assuming the episode closed, I proceeded to replace my exhausted clip with a spare, and in the process lost a heartbeat as a second bear looked at me from the same point where the first one had appeared. In amazement the clip was jammed into



place and the rifle thrown to the shoulder for action. And by this time a third bear had joined the second!

Now the facts became apparent. The two distant shots had dislodged a family. Mother Bruin took off for her life and minutes later her cubs fol-

lowed. I lowered my rifle.

After the cubs disappeared in the general direction of their mother, I was sure the incident was complete and moved around the beech brush to inspect the tracks.

The event that followed became the zenith of a man's outdoor exposures. Bounding toward me came the pair of cubs—the most delightful sight any man could ask of Mother Nature. Separated from Mom as they were, these two bears, the size of a springer spaniel and black as anthracite, sought refuge with me under the beech tops! One climbed up four feet to a log and the other crawled underneath the brush. For an extended time they remained there, just out of my reach, waiting it out for Mother's return. Time enough for me to take in this beauty of nature—and time enough to kick myself black-and-blue for having left the camera in the car.

To bear hunt unsuccessfully for 25 years is a long and wearisome time, but under such circumstances, one can truthfully state that in his heart he's glad he missed!

How It Really Is!

There is no faith quite so impressive as that of a small boy who defends a dad with an empty hunting coat.

To a deer, every man is a stump; but to a wild turkey, every stump is a man.

Greatest exercise in the whole world is following a bear trail in the snow. Ringnecks can run forever.

Grouse never, "never" fly out of your side of a hemlock tree.

Squirrels can't stay hidden more than 20 minutes and I can't sit still for more than 19.

A good duck day is one when your teeth never stop chattering.

A guy with a wired-together shotgun can hit 'em just about every time.

Boots leak only when the water is icy cold.

A hunting partner usually oversleeps.

Experts at trap and skeet may be lousy grouse shots and vice versa.

A deer hunter's sure-footedness can be measured by the amount of mud on the seat of his pants.

A woodcock hunter who tells you where his best cover is located is a liar.

Grouse hunters are all liars.

Every year the hills get steeper, the brush thicker, the barbed wire fences tighter and the hour of rising just a little later!

—BY ROGER LATHAM
in *The Pittsburgh Press*

Would You Believe?

By W. C. Richter
PGC Wildlife Biologist

WOULD YOU BELIEVE that the majority of cottontail rabbits killed during Pennsylvania's small game hunting seasons are males? Recent research conducted by the Pennsylvania Game Commission shows that hunters bag more male than female rabbits during both the regular and extended small game hunting seasons.

As the accompanying table shows, 55 to 57 percent of the total cottontail rabbits killed during the first day of the small game hunting season are males. It would seem logical, therefore, to assume (unless the sex ratio were severely unbalanced) that a higher percentage of females would be killed later in the hunting season to equalize the sex ratio of the kill. However, as can be seen by examining the rest of the table, this did not happen. In fact, the smallest percentage kill of female cottontail rabbits occurred during the extended hunting season.

Limited sex ratio data collected on a statewide basis also indicated a greater percentage of males than females in hunters' bags.

Many sportsmen have been apprehensive concerning Pennsylvania's extended cottontail rabbit season be-



cause of the possible increased vulnerability of the female. Although some hunters may find all female rabbits in one day's bag of rabbits, there is no evidence yet that female rabbits are killed at the same rate as male rabbits.

SEX RATIO OF COTTONTAIL RABBITS KILLED ON STATE GAME LANDS

<i>Period</i>	<i>Percent Male</i>		<i>Percent Female</i>	
	<i>1966</i>	<i>1967</i>	<i>1966</i>	<i>1967</i>
First Day	57	55	43	45
End of First Week	58	55	42	45
End of First Week to End of Regular Season ..	53	58	47	42
All Regular Season	57	56	43	44
Extended Season	61	61	39	39
Total All Rabbit Seasons	58	56	42	44



Every Father Likes to Take the Credit When His Son or Daughter Grows Up With a Full Appreciation of the Splendors of Our Outdoors—Our Mountains, Marshes, Rivers and Fields. But Much of the Time the Deserving Person Really Is One of . . .

Those Rare Creatures—Moms

By Jim Fazio

WHAT IS MORE common — and yet so rare — as a mother? Like the violets of spring, they are everywhere. Yet each possesses a delicate beauty of its own which, while similar to the others, is of singular interest and splendor to the eye of the beholder.

So it is this second Sunday in May that we pay special tribute to these rare creatures we each hold dear. To some, she is a golden memory. To others, Mother's Day gives excellent opportunity to formulate into words the loving and grateful thoughts which too often go unexpressed.

What do mothers have to do with the outdoors, you wonder. Possibly everything.

Perhaps the approach of Mother's Day is a good opportunity to reflect on how that special woman influenced your own interests in the great outdoors. And the interest is there, or you wouldn't be reading this magazine, or this article. More important still, it is hoped that the young moms who have this interest will more fully realize how important it is to share this gift with their youngsters.

Naturally, we men like to take the credit for any outdoor prowess our sons or daughters develop, and admittedly we are often best equipped to do the training. But let's face it, the power behind the throne is omnipotent. *Her attitude* is most often the one which is transmitted into a young child, and if she happens to share your outdoor enthusiasm, the road is a lot easier to travel.

Then, too, teaching a boy to bag a

deer is one thing, but quite another is teaching him why to suppress the boyish urge to shoot songbirds.

Downing a pheasant or grouse holds extra meaning to the boy or girl who knows the taste of well-prepared game.

Concern about wildlife management can be coupled with a concern for wildflowers.

Endless List

On and on we could go with a list of examples of how outdoor moms are an important influence in the making of well-rounded outdoorsmen. Consider those countless hours of Scout work! Den mothering, badges to sew on uniforms, torn pants to mend, projects to plan. . . .

Is the result worth all this effort?

J. Edgar Hoover is among those who say it most certainly is. Case histories of the FBI's "most wanted criminals" over the years have revealed that fewer than one percent had ever been Boy Scouts.

Another study, made over a period of several years by a Tennessee jailer, discovered that of 10,000 inmates, fewer than two percent had owned a hunting or fishing license when arrested.

A judge in Seattle who has heard 45,000 juvenile cases over a 20-year period reports that not one of those boys or girls had a wholesome outdoor hobby!

Those 4-H projects are important too. Washing muddy clothes after a trip to the woods is really a hidden blessing, and money spent on camping

equipment may pay the highest dividends of any investment you ever make for your children.

We hear all too little of the constructive accomplishments of that great majority of young people who are the products of a mother's love. Instead, our news media seems to thrive on bringing to our attention the hideous crimes committed by men or women who, when examined psychiatrically, are found to have been deprived of maternal love or care when youngsters.

An interesting analogy is that observations in nature have led some authorities to believe that the "lone

wolves" known in many species are the result of a premature interruption or complete lack of mothering in the animal's youth.

How vital is that loving guidance and care we take so much for granted. We can see it in nature, and we can see it in our own lives. These mothers, mine and yours, deserve the warmest tribute this Mother's Day and the year 'round.

In the midst of the great conservation awakening and behind every true outdoorsman is one of those common, rare creatures who in the mystical way of a woman has imparted appreciation and concern.

State's Contributions to Ducks Unlimited Lead Nation

Pennsylvania conservationists paced the nation in funds collected for Ducks Unlimited in 1968. Keystone State contributions to the pioneering waterfowl conservation organization last year totaled a record-smashing \$238,700. California was in second place with \$222,000, while New York was third with \$95,600.

The funds collected are sent to DU's construction affiliate, Ducks Unlimited (Canada), which utilizes the monies for wide-ranging wetlands construction and rehabilitation across the continent's prime waterfowl production regions, principally the prairie provinces of Canada.

Since its founding in 1937, Ducks Unlimited has collected over \$17 million for its vital conservation programs.

BIRD AND MAMMAL CHARTS

By Nationally Known Wildlife Artist **NED SMITH**

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Waterfowl
Birds of Prey

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Rattler!



HERE ARE THE "working parts" of a Pennsylvania timber rattler. Though not the most dangerous snake, it is highly poisonous. Don't handle!

By Vic Shaffer

NO SOUND is quite like the warning buzz of a rattlesnake. And on this occasion it was especially ominous—particularly so, since I had one foot poised in midair over a log and the warning was coming from directly underneath my outstretched foot!

This all came about on a rattlesnake hunt in Jefferson County. Hunt-

ing rattlesnakes has reached the proportions of an outdoor sport in Pennsylvania. The timber rattlesnake (*Crotalus horridus horridus*) is the largest poisonous species in Pennsylvania, reaching a maximum length of about five feet. Two phases are found here, the yellow phase and the black phase. Neither color phase can be exactly related to the snake's sex.

Timber rattlers feed almost exclusively on warm-blooded species, mainly rodents and birds. They usually emerge from hibernation in May and return in September, in which month seven to 12 young are born. Timber rattlers are most common in secluded mountainous areas, but in late summer will travel into the valleys in search of water.



Photo by William B. Allen, Jr.

BOTH THE yellow and black phases of the timber rattlesnake are shown here. This species is the largest poisonous snake in Pennsylvania.

My companion on this trip was Don Rea, native to this area, ardent rattlesnake hunter, fisherman, hunter and just plain outdoorsman. Don had enough experience that he thought nothing of picking up a live rattlesnake and holding it at arm's length while he gave it a thorough inspection. His only tool for this job was a piece of stiff wire about 3½ feet long with a slight crook on one end. The curved end was used to hold down the rattler immediately behind the head just long enough to reach down, get a firm grip at the same spot and lift the snake off the ground. If this might sound a bit casual it was not meant to be, as rattlesnake hunting is a very serious business to both of us and we take no unnecessary chances. Accidents can happen and with such speed that you might never know exactly just what went wrong.

I had picked Don up the night before in Brookville for a long awaited trout fishing trip. Proceeding along a dirt road en route to my hunting camp near Sigel, we saw what appeared to be a very large rattlesnake stretched across the right hand side of the road. I applied the brakes instantly and we bailed out both sides of the car simultaneously in search of a forked stick with which we hoped to take the snake alive.

A Hoax

We saw that the rattler was still in the same position and it dawned on both of us at the same moment that this particular snake was already dead! Some joker had run over it with a car and stretched it out in the dirt in a lifelike manner in the hope that the next carload down the road would react just about as we had. After observing the coloration of the rattlesnake and having a few chuckles over the hoax which had been pulled on us, we left it in much the same manner as we had found it—in position for the next unwary customer.

When dawn cracked the next morning it found the two of us knee deep in the clear cold waters of North Fork Creek, fly rods in hand. By the time the sun rose majestically over the top of the mountain we had both caught and released a number of small trout and lost several more. The serenity of those beautiful surroundings, unbroken by any manmade interruptions or noise, created a mantle of tranquility, and I was completely relaxed.

The fishing, vigorous as it had been earlier, came to a sudden halt as the trout stopped hitting as though on signal. Making my way back to the car for a midmorning cup of coffee, I saw that Don had beat me to it and was sitting on a nearby rock, cup in hand. Concurring that the fishing was over for a time, we agreed that now would be the perfect time for a rattlesnake hunt. That is how I came to find myself in the predicament described at the beginning of this story!

Leaving the car at the cabin, we had proceeded afoot to a well-known rattlesnake den area. As we were approaching a rocky den area, I had just stepped over one log and was beginning to cross another when I heard the buzzing beneath my foot. Had I been in a little more of a hurry my momentum would have made it impossible for me to stop. As it happened, I hurriedly withdrew my foot and crossed the log at a different point. I could see the coiled rattler near the log. By now he was really buzzing up a storm and his singing brought Don on the run.

A Real Live One

"You really have a live one there," Don remarked as we moved in closer for a good look and a try at maneuvering the snake into a better position for the pick up. I always carry a four-foot forked stick when hunting rattlesnakes and as Don moved the snake away from the underside of the log, I immediately came down behind the head with the forked stick. This held the head in a safe position so that Don could reach over and get a good grip behind that triangular head. Getting a good firm hold, Don hoisted four feet of very angry rattlesnake into the air.

To the uninitiated, this sort of thing might cause some very serious misgivings, or as the Englishman says, "It could give you a jolly bit of a start." However, both being veterans of a good many rattlesnake hunts, we were interested in admiring the fine coloration on the skin of this specimen. It was a beautiful gold color with perfect markings, approximately four feet in length and had 12 rattles and a button.

Contrary to popular belief, the number of rattles does not denote the age of the snake. A new segment is added each time the skin is shed, which may be several times a year. Rattles are brittle and often wear out and break off. The segments of the

rattle fit together loosely. The looseness of the rattles plus the vibration of the tail makes the buzzing noise. Once you have heard the rattlesnake's hair-raising song, you will never forget it. The tail is usually held erect while buzzing. Another popular belief is that rattlers always give warning before they strike. Don't you believe it, for this does not always hold true.

We decided against trying to keep this particular specimen alive. Don dispatched it and dropped it into a burlap sack we had. Within minutes, Don spied another one sunning itself atop a rocky outcropping. As we carefully moved into position to capture this one, another started singing a short distance off to my right. This prompted the first one to start buzzing and the forest suddenly came alive with sound.

At this point, it was every man for himself. As Don proceeded to capture the first one, I maneuvered myself into position for the second catch. Mindful of the old tale that where you find one or two rattlesnakes, you will find more, I cast a wary eye about while stepping gingerly from rock to rock. Meanwhile, the buzzing reached a new tempo, as both rattlers

THE MASSASAUGA rattler is found occasionally in northwestern Pennsylvania. It is comparatively inoffensive, but will strike and is poisonous.

Photo by William B. Allen, Jr.





AN EXPERT snake handler demonstrates how venom is milked from a rattler—something which the average outdoorsman should never attempt.

stepped up their song. Reaching over with the forked stick, I came down swiftly behind the head of my rattlesnake to pin it into place. Looking up, I observed Don just straightening up with a very large and obviously disturbed rattlesnake held at arm's length.

At this point I must admit that as much as I thoroughly enjoy the sport of rattlesnake hunting, I have never been able to muster enough courage to attempt picking one up in this manner. To each his own, I thought to myself, as I dispatched this one and added it to the sack. By now Don had done in the one he had been playing and the awesome quiet which had descended on the forest almost hurt your ears. Cutting off the rattles, we decided to skin out the largest, a fine dusty gold specimen, and then headed back toward camp.

If you should decide to try this activity, a few simple rules should be

followed. First of all, wear proper clothing. This should include rubber boots or high top leather boots. Loose fitting trousers can be a help. Keep hands out of places like rock ledges or on rocks above eye level while climbing. Never hunt alone. When new at rattlesnake hunting, always go with an experienced hunter. Above all, maintain a healthy respect for the object of your search.

Take 'Em Alive

Neither Don nor I enjoy killing rattlesnakes. In most cases we try to take them alive. We have donated many to zoos and to research organizations. On one occasion I had a request from a local Forest Ranger to capture some alive. I got three for him. His idea was to display them in cages so tourists coming into one of our State Parks could see that there really were rattlesnakes about. He hoped this would make them a little cautious when rambling around. Most of them got the message.

On this particular trip, Don took home the rattlesnakes we had bagged. A friend of his had a troop of Boy Scouts who were working on their merit badges in outdoor cooking and rattlesnake was on the menu!

Rattlesnake meat is considered a delicacy by many, and is sold canned in some gourmet shops. Certainly nothing could be any cleaner than rattlesnake meat. It has a very delicate flavor and both Don and I have enjoyed it on occasion, prepared over an outdoor fire by a recipe known only to Don. It has a very light taste, somewhere between chicken and fish. Many more people would enjoy it, I am sure, once they overcame the idea that they were eating rattlesnake.

The timber rattlesnake belongs to the pit viper family. Heat-feeling pits or cavities are located on either side of the head between the nostril and the eye. These detect the nearness of warm-blooded prey, even in the dark.

Once the victim has been located,

the venom apparatus immediately comes into play. When a rattlesnake opens its mouth to strike, the long fangs which have lain folded flat along the roof of its mouth swing down into position and can be plunged into its victim with one swift motion of the snake's head. As the fangs sink in, muscles contract and squeeze a venom gland located in each cheek below and to the rear of the eye. The venom is forced out through the hollow fang to a hole near the tip, much in the same manner as a hypodermic needle and equally as efficient.

Modified Saliva

Reptile poison is modified saliva. This venom is made up of many active materials, mainly proteins and enzymes. The pit vipers have poisons of the hemotoxic or hemorrhagic type, which means that they act primarily on the circulatory system, clotting blood cells and destroying capillary walls. The venom also contains a spreading agent to hasten its distribution within the victim.

Once the rattlesnake has caught up with its dead or dying victim, it can now bring to bear the snake's ability to fit its jaws over large amounts of food. A four-foot rattler can swallow a full-grown cottontail rabbit. Nor is it at a loss to provide itself with cottontails to swallow. And as rattlesnake venom also contains digestive enzymes, the digestion process begins as soon as the venom has been injected into its prey.

Though not the world's most poisonous snake, there is no doubt that the

rattler's physical equipment for delivering its venom is among the most sophisticated in the snake family—and the venom is so toxic that any debate as to its relative efficiency is largely academic. Your best course is to take no unnecessary chances when in rattlesnake country, and if you are deliberately hunting them, carry a



Photo by William B. Allen, Jr.

THIS SMALL, yellow phase timber rattler blends well with his normal woodland background, could escape observation by casual hiker.

snakebite kit (with the instructions memorized beforehand). Much current medical opinion recommends that the tourniquet/incision/suction method be used only when no other treatment will be available for some hours, and advises that a person bitten by a rattler be taken immediately to a hospital or physician for antivenom injections.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.



AFTER MOVING THEIR trap, built of corrugated culvert pipe, into an area where they want to catch a bear, researchers bait it with "ripe" meat and wait. When gate falls, they check carefully to make sure what's in there!

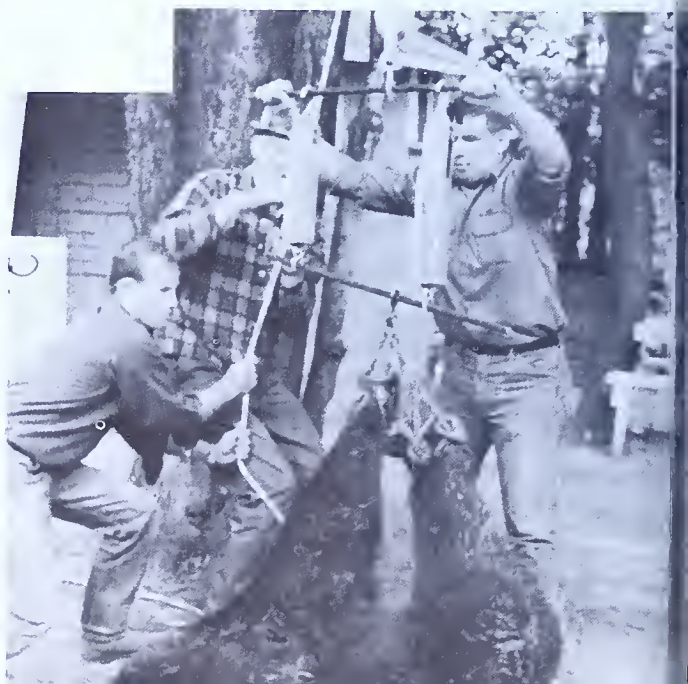


Live-T

THE BLACK BEAR, an occasional nuisance in campgrounds, etc. One s offender and move him. saved for beneficial purp gists join Game Protecto sex, weight, general conc are recorded. The bear is fied by a tag in each ea vested, he has fulfilled I fortunate hunter, inform his growth since capture



ONE MAN OPENS gate and another is ready to immobilize bear with tranquilizer, so he can be weighed, examined, tagged and tattooed.





g Bears

g game animal, can be an
y, hunting camps, public
ch problems is to trap the
planted bear is an animal
procedure, research biolo-
offender is immobilized,
vements and abnormalities
icillin treatment and identi-
to on his lip. If later har-
providing a trophy for a
movements, and a record of

AS RESEARCH PROGRAM continues, it is expected that much more data than is currently known about bears will be accumulated. In the long run, this program will be of great benefit to Pennsylvania hunters.

y James S. Lindzey
enn State Wildlife Research Unit
Photos by Bob Parlaman





FIELD NOTES



The New Dobbins

CRAWFORD-ERIE COUNTIES—Since the change of policy allowing the use of snowmobiles on State Game Lands, there has been a marked increase of usage of these areas. Many families that formerly did not come out of their houses in cold weather are now able to enjoy outdoor recreation. Many people attach buggies or sleds to the snowmobiles, allowing the youngest children to go along. They are quite surprised to find so many roads which make areas accessible they did not know existed before.—Land Manager J. C. Hyde, Townville.



Good Intentions

CLEARFIELD COUNTY—I've heard of many different types of winter feeding programs for wildlife, but I think my three daughters have gone overboard a little. Found behind our house: three apples, four walnuts, a handful of peanuts, two slabs of cornmeal mush, at least a pound of bird seed and half a bowl of soggy sugar-frosted flakes.—District Game Protector G. J. Zeidler, Rockton.

Interested Ohioans

ARMSTRONG COUNTY—During February, I had the privilege of representing the Pennsylvania Game Commission at the Sport, Vacation and Travel Show in Columbus, Ohio. It is difficult to realize the value of these out-of-state exhibits to the Game Commission. In just one year's time the popularity of the Game Commission's booth at this show more than tripled. Questions, requests for GAME NEWS and paid publications, etc., increased greatly. It made me feel good to know these Ohioans were so interested in Pennsylvania hunting. I believe the thing that sells Pennsylvania is that our nonresident license gives the holder the same privileges as a resident of our Commonwealth, with very few exceptions, and entitles them to year-round hunting.—District Game Protector D. C. Madl, Kittanning.

Tractor Tamer

BUTLER-LAWRENCE COUNTIES—Robert L. Stewart, Farm-Game Manager and Food and Cover Corps worker residing at Hilliards, adjacent to State Game Lands 95, Butler County, had a real fighting visitor at his place and on his dad's farm—a male ring-necked pheasant which ran after their tractor while Bob was working, defied the vehicle and tried combat tactics. Regardless of where the pheasant was, if he heard the tractor engine he would come running, ready for the attack. One day, Bob alighted from the tractor, intending to scare the ringneck away. Instead, the pheasant leaped at him and spurred his hand.—Land Manager W. R. Portzline, Slippery Rock.

Ain't It the Truth?

CRAWFORD COUNTY—

Violets are blue and so am I,
At the end of the month I'd like to cry,
Reports are piling up in my face,
Paper will bury the human race.

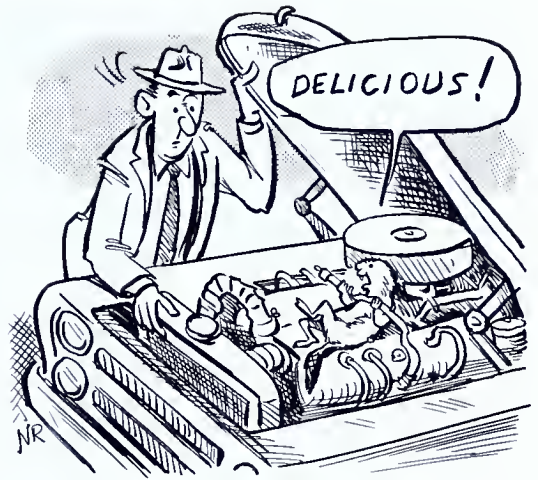
—District Game Protector
W. E. Lee, Titusville

Next—Three in a Row?

HUNTINGDON COUNTY—During the past deer season while on patrol in Carbon Township, I was making a routine check of hunting licenses. A nonresident, Carl Black of Raiberton, Ohio, had 1968 hunting license number 14745. The odd part of this is, he also had with him his 1967 license with the same number, 14745.—District Game Protector R. F. Ellenberger, Three Springs.

Always Listen at Wrong Time!

FAYETTE COUNTY—I have met many types of motorists involved with deer on the highways, but in March a new one appeared. A young lady came to the door, out of breath and almost hysterical. All I could get out of the conversation was that she had been dispatched by her husband to get me "in a hurry," and meet him at the top of the hill near my headquarters—and that she had wrecked the car. On the way to investigate I observed a car over the bank, and soon met her husband comforting a doe deer with a broken leg. I disposed of the deer and soon learned what had happened. The couple had seen this injured deer standing in the middle of the road and stopped. The husband coaxed the deer off the road and sent his wife for me. She had a flat tire on the way to my headquarters and went over the bank. Total expenses for the good deed, \$50. The wife was quickly composed by her husband's remark, "If I'd only told you not to hurry!"—District Game Protector A. J. Ziros, Connellsville.



Freeloader

PERRY COUNTY—When Russell Hurley of Landisburg got into his car and turned on the ignition in January, the car would not start. Thinking the distributor might have moisture in it, he raised the hood. Sitting there having a good time chewing wires was a muskrat. To top things off, the rat was very reluctant to leave. He crawled under the engine and Mr. Hurley feels he gave the little fellow a free ride to Carlisle. — District Game Protector B. D. Jones, Loysville.

Winter Action

MERCER COUNTY—Due to the mild winter there should be a good carry-over of wildlife in northern Mercer County. Thus far, five beaver have been taken, the largest about 45 pounds. Talked to three fox hunters who have bagged 62 foxes thus far this winter.—District Game Protector B. K. Ray, Sheakleyville.

Modern Record

ADAMS COUNTY—Local trappers James Leech and John Everhart were successful in catching a beaver in Marsh Creek. This is the first beaver to be trapped in Adams County for over 40 years.—District Game Protector J. J. Troutman, New Oxford.



Be "Fully" Prepared

CENTRE COUNTY — Of all the Moshannon Valley Scouts and their leaders that participated in browse cutting on State Game Lands 33 in February, only two Scouts came *fully* prepared. They not only brought along their Scout axes, but also two hacksaws which they intended to use in cutting down "ironwood" trees.—District Game Protector M. Grabany, Philipsburg.

Always Thinking

HUNTINGDON COUNTY — Last year, two large enclosures were built in Harry's Valley, Huntingdon County, to hold deer and use as a study area. Recently we found that they served another—unintended—purpose. While on an organized fox hunt on Washington's Birthday, Deputy Joe Smith had his hounds running, and it was obvious that they had a fox going. As the dogs reached the area of the deer pens, their barking stopped and all were momentarily confused. Upon checking, it was found that the smart old fox had squeezed through the fence, proceeded through the enclosure, and left on the extreme opposite side. After leading the dogs around the 70-acre pen and putting them on the track, the chase was on again.—District Game Protector G. W. Wendt, Petersburg.

Saves Explaining

LACKAWANNA COUNTY—While on patrol during February, I saw a man emerge from a wooded area adjacent to the road. He had a hound dog on a leash and a shotgun under his arm. I wondered what he had been hunting at this time of the year. As I drove closer, he crossed the road to his vehicle which, until then, I hadn't been able to see. On the rear bumper of his station wagon was a very conspicuous sticker which read, in very bold letters, "I AM A FOX HUNTER." I wonder if that gentleman knows why I was smiling as I passed by and continued on patrol?—District Game Protector T. C. Wylie, Moscow.

I've Been Everything Else . . .

FRANKLIN COUNTY—As a District Game Protector I have been mistaken for about everything that wears a uniform, from a meter reader to someone in the Army. While on duty at the Harrisburg Sports Show, I added another to the list. Taking a short break from the booth, I was standing near the entrance to the arena where a stage show was going on. Two fellows handed me their tickets as they went into the door, thinking I was the ticket-taker.—District Game Protector J. D. Mort, Chambersburg.

First Impression

CLARION COUNTY — The day I graduated from the Training School and received my assignment to Clarion County, I decided to drive out and get my first look at the area. As we entered an old strip-mining area, my wife said, "Oh, my, just look, even the pine trees are all dying out here." It made her happy when I explained that these were larch trees and they'd be nice and green again in the spring.—District Game Protector L. L. Harshbarger, Knox.

Time to Wake Up

FOREST COUNTY—God's gift to northwestern Pennsylvania—this area—used to be known for its beauty, National Forests, wildlife, fish and clear streams. Yes, Forest County was once noted for its clean, pure water. But now try taking a drink from a stream here. You'll find it has a very oily taste. Even the beaver are almost worthless, as the oil knots up their fur. Every spring the pipelines break, running hundreds of barrels of black oil into the streams and beaver dams. I picked up a dead grouse after the break that ran into McCrays Run. It had landed in the more than half inch of black goo and crawled out looking more like a crow than a grouse, and then died. Not only the fishermen suffer, but also hunters, campers, trappers and everyone who used to enjoy the clean streams, banks and air of this once-lovely area.—District Game Protector D. Gross, Marienville.



What It Takes

CRAWFORD COUNTY—The tempo of beaver trapping nearly doubled this year in my district, and most of the increase is young first-time trappers. Evidently the slight increase in fur price has been the motive.—District Game Protector A. D. Fichtner, Linesville.



Hippy Hens

LYCOMING COUNTY—While helping trap wild turkeys in Lycoming County, I had an opportunity to see several bearded hens at close range. I guess that even with turkeys you can't always tell a male from a female by just the hair!—District Game Protector R. G. Clouser, Williamsport.

Might Be a Good Idea

SOMERSET COUNTY—While writing up a hunter for a Game Law violation during deer season, he asked, "How many points will I get?" I asked what he was talking about. He stated, "I mean points against my license."—District Game Protector J. Burns, Central City.

Who's Boss, Anyway?

CLARION COUNTY—While on patrol in the Limestone area, I had to stop my car to let a parade of turkeys cross in front of me. I counted 11 turkeys—eight hens and three toms. It looks like another good spring gobbler season coming up. The last turkey was a gobbler with about an eight-inch beard that stood on the bank and cussed me out for blowing my horn at him.—District Game Protector A. N. Pedder, Clarion.



How It Goes

MERCER COUNTY—The new restrictions on purchasing firearms and ammunition are now in effect, and although I felt it was going to create some uncalled for confusion I really underestimated just how much. Recently a lady from Hickory Township went into a local store to purchase a box of BBs for her son's air rifle. You guessed it. She had to register, before they would sell them to her. I'm sure that we all can sleep in peace now, knowing that everything is under control, even though the lady assured me that her little boy had no intention of shooting anyone with his BB gun.—District Game Protector J. A. Badger, Mercer.

Hoosier Crow Buster

BUTLER COUNTY—There is a very good crow roost in this district, and I have checked hunters from Ohio and West Virginia regularly, but the most distant hunter I have checked is from the state of Indiana. This man hunts nothing but crows and brags of the fine crow hunting in Pennsylvania. He takes his vacation to come to Pennsylvania just to hunt crows, and gladly pays \$25.35 for his hunting license.—District Game Protector J. D. Swigart, Butler.

Genuine Sportsman

ERIE COUNTY—On January 3 I received a visit from Walter Pattison, retired Game Protector. Walt told me about his previous day's hunting and finished up by saying that he had driven away and left his faithful old shotgun on the ground near the place he had been parked. When he returned for it, it was gone. Pat felt very bad about the situation. When I assembled my material for the newspaper (a small weekly column I write) I included this story. The day after the paper came out, Walt received a call from a Niles Copeland who lived not too far from where the gun had been lost. The next morning I picked up Walt and we went to see Mr. Copeland, who returned the gun he had found. We need more sportsmen like Mr. Copeland. — District Game Protector R. W. Meyer, Erie.

Last Laugh

WASHINGTON COUNTY—While traveling north on Route 79 toward Canonsburg, I observed a ring-necked pheasant sitting on a bank along the road. He appeared to be watching the cars go by. On my return trip, he was still sitting there, still watching the automobiles go by. To me he seemed to be saying, "Here's one bird the hunters didn't get last year."—District Game Protector F. D. King, Washington.

Now's the Time

BRADFORD COUNTY—Everything is "Go" for our second spring gobbler season. Here in Bradford County we are wintering a high turkey population with a good percentage of adult toms. And I might add that in spite of a fine deer harvest that ranks Bradford County Number 4, we are wintering a herd comparable to last year.—District Game Protector R. W. Donahoe, Troy.



CONSERVATION NEWS



141,874 Deer Taken in State

PENNSYLVANIA deer hunters continued to add impressive figures to the record book as they reported harvesting 141,874 whitetails in the Commonwealth during the 1968 seasons. Included in the total were 62,038 antlered deer, the third highest harvest on record, and 79,836 antlerless deer, the fourth highest figure ever recorded. The total harvest is also the fourth highest on record.

Potter County, traditionally the leading deer producer, was way out in front in all categories in 1968. Hunters reported taking 3755 antlered whitetails and 5229 antlerless deer in Potter for a total of 8984 deer in 1968.

Tioga County's buck harvest of 2511 and the county's total harvest of 5725 were second in the state, while Tioga's antlerless take of 3214 was third highest.

Clearfield County's antlered deer harvest of 2352 was third highest, and that county's total harvest of 5653 was also third highest in the state. The antlerless harvest of 3301 in Clearfield was second highest in the Commonwealth.

The antlered deer harvest included 47,587 with three or more points and 14,451 spike bucks. The antlerless total included 66,004 females and 13,832 males.

Resident hunters took 54,553 antlered and 76,042 antlerless deer, while nonresidents took 7485 bucks and 3794 antlerless whitetails.

Of the seven largest buck harvests on record, six have occurred in the last six years. Three of the eight largest antlerless harvests have occurred in the last three years. In the past six years, hunters have reported harvest-



Photo by Keith Schuyler

MRS. JACK YOST, Berwick, RD, bagged this beautiful big 8-point buck near her home during the past deer season, helped Pennsylvania maintain its ranking as the Number 1 hunting state in the nation.

ing 361,613 antlered deer and 318,767 antlerless whitetails in the Keystone State, for a total of 680,380 deer.

When the current deer management program was inaugurated about 10 years ago, range conditions were such that it was hoped that the size of the herd would be stabilized at a level that would produce an annual antlered deer harvest of about 35,000 to

45,000 animals. Unusually mild winters and lower than desired antlerless harvests during these years have made the overall population larger than the range can comfortably support. Hence, it has been necessary to harvest more than the usual number of deer in order to take the herd out of conflict with other uses of the land and to prevent excessive winter starvation.

Game Commission personnel believe that even with the relatively mild winter we have just experienced, there would have been excessive loss of deer to starvation this year had the 1968

harvest not been as large as it was.

Insurance companies are able to set premium rates with amazing accuracy after compiling data over a period of years. The Game Commission uses similar statistical methods in managing the state's deer herd. The accuracy of Game Commission projections is shown simply in figures on antlerless deer harvests for the past two years. Pre-season projected antlerless harvests were established at 70,872 in 1967 and 72,190 in 1968 (total of 143,062). The actual harvest for the two years was 145,983.

Over 21,000 Deer Killed on State Roads in 1968



PGC Photo by Bob Bell

TYPICAL OF THE deer killed on Pennsylvania's highways during the past year were this button buck and doe, both hit by the same truck on Route 11 south of Liverpool.

Efforts by the Pennsylvania Game Commission to control the size of the state's deer herd apparently helped to hold down the number of whitetails killed on the state's highways to 21,607 in 1968.

Deer mortality due to vehicular collisions on roads in the Commonwealth has been climbing steadily for some years due to an increase in the size of the whitetail population, the increased speed and number of vehicles and drivers on the roads, and more miles of highways.

The incidence of deer-vehicle collisions last year represents a drop of about 1000 compared to the 1967 total of 22,610. The total is not an estimate but is the number of deer picked up and disposed of by Game Protectors.

Road kills tend to be above normal where new highways are opened through regions with heavy deer populations. Drivers in these areas should be especially cautious.

Additionally, another 6000 deer were known to have been killed because of crop damage, by dogs, illegally, etc.

Hunters in only 20 other states purposely harvest more deer in a year than are killed on Pennsylvania's highways.

Poll Says Public Will Pay

THREE out of four Americans are willing to pay more taxes earmarked to fight deterioration of their natural surroundings, according to a national public opinion poll conducted for the National Wildlife Federation by Gallup pollsters. Those willing to pay more taxes to improve their natural surroundings represented all income groups, including 63 percent of families earning under \$5,000 per year! These findings were part of what is thought to be the first independent public opinion poll on the subject of environmental conservation.

According to Thomas L. Kimball, executive director of the 2,000,000-member conservation group, the Federation sponsored the survey in the face of increasing criticism from some people, including certain members of Congress, that organized conservation groups don't truly represent the general public's thinking. More than 85 percent of the people surveyed, however, said they are concerned about the state of the environment, and 51 percent expressed "deep concern" about the effects of air pollution, water pollution, soil erosion and wildlife destruction.

Most Pressing Problems

Air and water pollution, in that order, were ranked as the most pressing environmental problems facing the nation, with auto exhaust and industrial waste taking most of the blame.

Although the majority of the U. S. population is composed of city dwellers, only six percent of those surveyed said they actually prefer to live in a large city. On the other hand, an overwhelming three out of four said they think more lands should be set aside for conservation purposes.

"It is abundantly clear the American public is becoming more and more aware of the forces at work to rob America of its livability," Kimball said,

battle has just begun. Stripped of all the political eyewash, false promises and mimeographed press releases, this country is fighting for its very survival," he emphasized. "Scores of Americans die every year from air



SOIL EROSION, such as shown here, is but one of the environmental problems concerning all thinking persons. Others are air and water pollution, with their resulting deleterious effect on all life forms.

"but it's equally clear the conservation pollution, and the health of millions more is jeopardized. Flagrant pork barrel projects are funded while in the same breath Congress reneges on its promise to help finance human waste treatment facilities. Our cities seethe with tension, yet few urban parks or open spaces are really safe from the freeway and parking lot mania.

"This survey confirms that most Americans are concerned and willing to join the fight against environmental mismanagement," he continued, "and beginning immediately, the National Wildlife Federation will greatly accelerate its educational efforts to provide the necessary ammunition."

Deer Antlers as Radiators

A NEW ZEALAND zoologist at the University of Canterbury has produced evidence supporting the speculation that the antlers of stags act principally as radiators for dissipating excess heat during the rutting season.

A radio thermometer for measuring the surface temperature of antlers under normal, wild conditions was devised. Deer were first anesthetized to allow fitting of the radio transmitter on their heads and the aerial among their antlers.

When the deer is moving around actively, the temperature on the surface of the antlers rises to blood heat and this effect is particularly marked when he moves out into the sunlight. As soon as the animal gets into the shade or lies down to ruminate or sleep, the temperature of the antlers drops markedly.

By exhibiting different behavior patterns, the stags can turn their antlers on or off as radiators. Observations confirmed that stags move about in the shade as much as possible and keep out of the sunlight during the day.

The classical, and often romantic, explanation of antlers has been their

insignia of "maleness" and the popular notion that the main function of antlers is for fighting.

The stag puts on a layer of excess fat around the kidneys and beneath the skin during the spring and summer as storage for use during the autumn rutting season. In the summer this fat acts as a heat retaining blanket which prevents the stag from losing heat to the environment through the normal surfaces as rapidly as required.

It may be reasonable to assume that male deer have evolved natural radiators at the most effective place, anatomically, and at the required season. Like all mammals, including man, deer lose much heat through the top of the head where the veins and arteries are well developed. When there is a need to radiate more heat than usual, the stag grows an extra radiating surface from his forehead using extensions of the existing veins and arteries into the velvet of the antlers. The antlers grow upwards so as to catch the maximum circulation of air for assisting the dissipation of heat. Antlers act as radiators only while they are growing and by the end of their growth this requirement has been fulfilled.

New Shooting Hours Have No Effect on Accidents

A review of hunting accidents in Pennsylvania during 1968 shows that for the second consecutive year the current shooting hours program has had no effect whatsoever on the number of mishaps.

Current hunting hours in the state are from one-half hour before sunrise until sunset, with a few exceptions. At the time the program was inaugurated several years ago, heavy criticism was leveled at the Game Commission because it was charged that the new hours would lead to more accidents.

The earliest fatal hunting accident in 1968 occurred at 7:45 a.m., and light conditions were not a factor in any fatal mishap.

There were 505 non-fatal hunting accidents in 1968, and very few occurred early in the morning or late in the afternoon. In no instance did light conditions have a bearing on an accident. In fact, there is evidence to support the belief that the new shooting hours have made hunters more safety conscious and more aware of their responsibility in observing opening and closing hours.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



PGC Photo by John Behel

TEACHERS FAMILIARIZE THEMSELVES with sporting arms at the PSU Conservation Laboratory. DGP Joseph Wiker helps explain gun mechanisms.

Teachers Prepare

PENNSYLVANIA'S educators are aware of the need for conservation and hunter safety education and are doing something about it.

Annual workshops have been established for teacher participation, as schools and colleges accept the responsibility of familiarizing themselves with wildlife management problems and hunter safety training.

The Pennsylvania State University's Conservation Laboratory, established in cooperation with the Pennsylvania Game Commission, is attended each summer by Pennsylvania teachers who receive credits in wildlife management

and conservation toward degrees in education. A training program to certify teachers as hunter safety instructors is part of the curriculum. It has been enthusiastically received. Another indication of accelerated interest in these fields are the many workshops provided by school districts throughout Pennsylvania.

An outstanding Conservation Institute for teachers was coordinated by the school district of Adams County. Its purpose is to provide an understanding of the need for conservation. It also recognizes the need for hunter safety training in the curriculum.

Outdoor training stations were set up by conservation agencies throughout Adams County on State Game Lands and State Forest Lands. Buses transported teachers to various exhibit areas for lectures and demonstrations. Response was excellent.

The Pennsylvania Game Commission's hunter safety and game management programs were established on State Game Lands 249 at Biglerville, with a tour of area food and cover development for wildlife. A program on firearm safety and Pennsylvania's snakes was presented by District Game Protectors Jack Troutman and Carl Jarrett.

With the increased interest by schools in providing firearm safety training, the Pennsylvania State University Conservation Laboratory for Teachers includes the full certified hunter safety instructor course as a part of the two-week program. All teachers receive information on sporting arms, safe handling of arms in the home and field, and the hunter's responsibility, which includes game identification, safe clothing, conservation, game management and sportsmanship. In addition to the basic data for teaching firearm safety, methods

of developing proper student attitudes and teaching methods with visuals such as slides, films and instructional aids are presented.

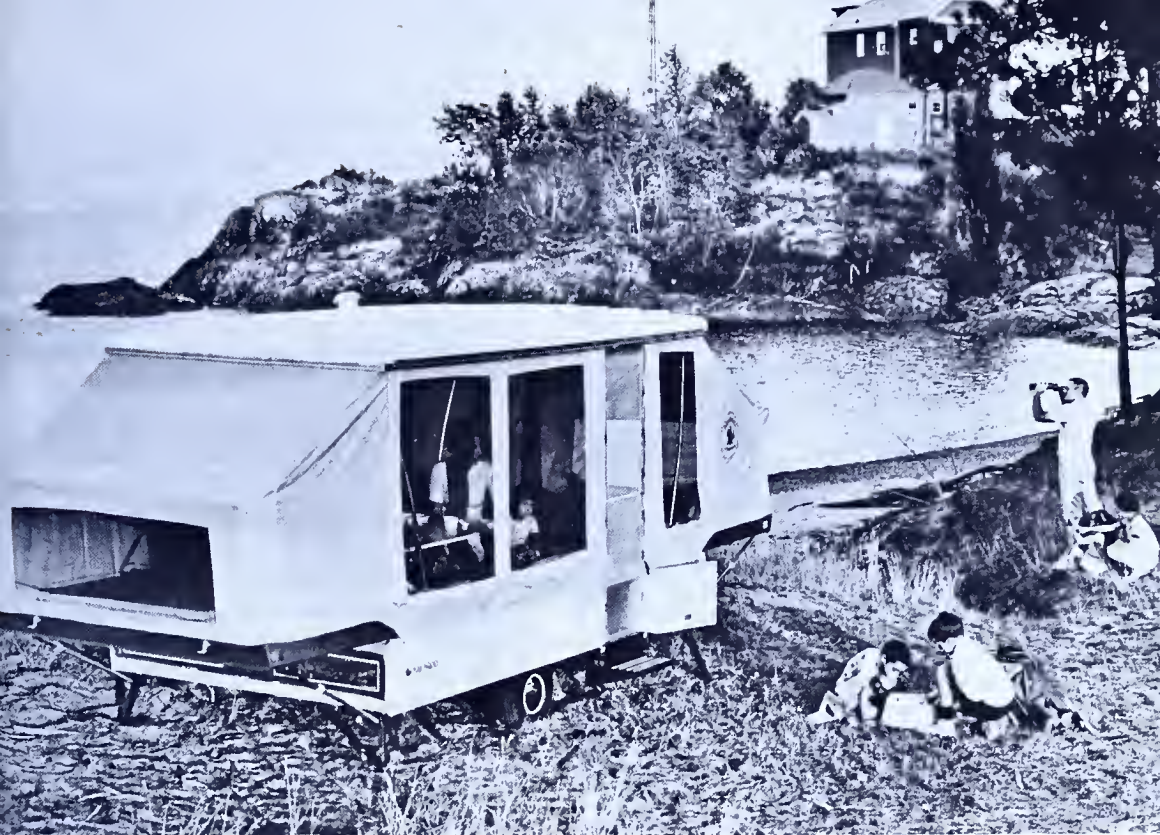
High points of the course include developing proper student attitudes, creating proper firearm awareness through use of the Attitude Inventory in Firearm Safety and Bow Handling, and by the "What Do You See?" series.

An interesting and important part of Pennsylvania's Hunter Safety Program was one teacher who doubted that she herself was qualified to present proper instruction on sporting arms. However, as a teacher she enthusiastically coordinated a complete hunter safety training course for 300 students and prospective teachers as a part of the Physical Education Program at Pennsylvania State University's campus at Altoona. As a result of her interest and participation in firearm safety during the Conservation Laboratory for teachers, the firearm and hunter safety course will be provided each year. The course, which is presented by Pennsylvania Game Commission personnel, includes a shooting demonstration to further create awareness in the safe handling of sporting arms.

DGP JACK TROUTMAN presents hunter safety program to Adams County teachers institute and conservation workshop.

PGC Photo by Joseph Chick





FAMILY GROUPS MAKE UP one of the largest segments of campers, as this activity is less expensive than other kinds of vacation.

Some Thoughts About . . .

Why You Camp

By Les Rountree

IN A RECENT issue of **GAME NEWS**, an article by John Madsen attempted to explain just why hunters go hunting. The author chose a rough assignment for himself but he did a most admirable job. I found myself agreeing with him on all counts. It was, in fact, the kind of article I wish I had written myself. My attempt at this month's column is a try at categorizing campers in a philosophical way. It may even be an attempt to justify camping, if such is necessary. Maybe I bit off more than I could chew but here goes anyway.

Campers, like any other group of special interest people, cannot be easily placed into specific slots. They hit the trail for different reasons—reasons im-

portant to them individually—and they sometimes wonder just why the other fellow goes camping at all. Each knows that his reason is the best one.

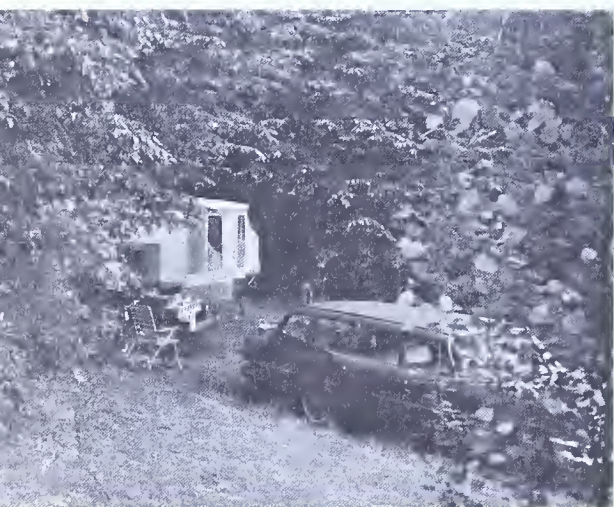
Hunters and fishermen are generally practical campers. Camping simply places them in a favorable geographic location to pursue their chosen sports. There is also an economic consideration. It is much more comfortable to roll off an innerspring mattress in a motel and go hunting than it is to wiggle out of a sleeping bag and shiveringly prepare your own breakfast. The hangups are: motel living can be expensive and deluxe accommodations are not usually found in the best hunting areas.

Most hunters, of course, would not

admit that comfort is their most important consideration. If put right up against the wall, they would babble on endlessly about "being out in the wild," "communicating with nature" and all that hairy-chested jazz about being out with the boys. There's a bit of truth to all of this, but the real reason a hunter subjects himself to camping is to bring home the venison. Oddly enough, this fellow does save some money, but not a great deal. If he does any amount of camping at all, he soon acquires a vast amount of gear and carries a lot of expensive food with him and winds up with a sizable total bill.

This next category I should really save until last because these people are not willing campers at all, but are forced to take part because of occupational requirements. Into this group fall the surveyors, geologists, timber cruisers and other outdoor workers whose vocations require them to spend a certain number of days and nights afield. These are practical campers. They are there because their livelihood depends on it and, quite honestly, they are the best campers of all. Experience has taught them all the time saving tricks, and money saving

SOME CAMPERS like being elbow-to-elbow with others, but many prefer a secluded spot of their own, even at public campgrounds.



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ones as well. Some of these people genuinely enjoy camping, but surprisingly enough, a great many do not. If they had their druthers, they would much prefer clean white sheets and room service to a leaky tent and the smell of a campfire. But if you want good advice on equipment, these are the men to ask.

Then there are the family campers. A typical example would be a couple in their middle 30s that has acquired a private army of three children or more. They like to travel but the high cost of motels, plus meals and other necessities, can easily reach \$100 a day. Camping is their only solution. With judicious planning, including a respectable number of hamburger dinners, this family camper can enjoy a comfortable outing on \$25 a day, in most cases, much less. His initial investment might scare him a bit, but during his camping lifetime (that is, until the children leave home), it will turn out to be a wise purchase. At first, this camper justifies his being in the wilderness by economy reasons. Many of these people, however, learn to genuinely enjoy camping. When they reach a more comfortable financial position, instead of going back to the motel circuit, they often enlarge their outdoor budget and simply become more deluxe campers.

Next comes the most perplexing group of all. These are the faddist campers. They happened to read an article in the Sunday Supplement that

told them about the great joys of the outdoors. "Millions of city dwellers," so the article said, "were charging into the lush green countryside and the wild, remote reaches of Yosemite Park and enjoying every minute of it." (And it certainly was true that Joe and Ellen Schnitzel did go camping last year and they just had a marvelous time, so let's try it.) This is the group that we "old hands" fear most of all. They aren't quite sure why they're in the camping area, they just know it's the thing to do. They stay in constant touch with the real world through transistorized radios, while consuming cashew nuts, bananas and canned beans at every meal. Their justification is, I suppose, status, but with this group, too, a small percentage manages to stick it out for several trips and eventually learns to enjoy the game. Some turn into most accomplished tent dwellers. Reluctantly, I must admit that the finest campsite setup I ever saw was the handiwork of a Manhattan accountant who, five years earlier, didn't know the difference between a ridge pole and a parking meter. He may not have been the finest outdoorsman in the world, but he most certainly did know his camping gear and how to use it.

Most Envied Group

I suppose the most envied group of campers are the professional outdoor writers. These are the people, according to the general public and, most specifically, other campers, who are always off to strange and exotic places with the very finest in outdoor gear and then have the audacity to write words about it and get paid for it. There is an element of truth to this,



but quite often these poor fellows operate under a tremendous handicap. They always seem compelled to have to get story possibilities out of everything they do, and they're constantly on the alert lest some reader recognize them and poke fun at their in-



CAMPING IS A MEANS to an end with many hunters and fishermen, whose primary reason for indulging is to get more time in their favorite area.

eptness. They are also constantly hounded by manufacturers who want to know why their particular product wasn't illustrated in their latest story. The fair-minded outdoor writer wants to try out as many different kinds of camping gear as he possibly can, and usually winds up using things that probably don't amount to much anyway.

The last group we'll discuss is the genuine, honest, 100 percent, back-to-nature camper. These are the people who wouldn't have it any other way, the ones who camp for the sake of camping entirely. They have done it for many years. They are the true professionals and have become excellent naturalists and outdoorsmen. They know their equipment, their surroundings and, they think, their reasons for being there. But like all of the other camping types we have discussed, they would be just as hard put to ex-



MANY CAMPERS take a sporting arm with them, for casual plinking and perhaps hunting when the regulations and seasons permit.

plain exactly why they are there.

As I mentioned when I started this list of camping types, it's difficult to pin an exact label on anyone. There has to be some overlapping. The head of a family camping clan can also be a hunter-camper on occasion. The working-camper can be a genuine nature-buff. In fact, any combination of types is possible. There could be other categories I haven't listed. If the reader would like to create a special class for himself or his friends, please feel free to do so.

It hasn't actually been a long time that man has gathered himself into large cities and communities for his own protection. Prior to this, he depended solely on his own ingenuity and skill as an outdoorsman to provide for himself and his family. It's been only a few thousand years since man ceased to be nothing more than a slightly superior, hair-covered animal. The hunting instinct, of course, is a carryover from those days and so, undoubtedly, is camping. Heeding the

call of an earlier day, some of us are strongly inclined to pick up a firearm and go hunting. As John Madsen pointed out, the sport of hunting certainly can't be justified as a means of providing food, at least not in 1969. Whatever the reasons are that put you out in the woods, there is still this invisible thread that ties all of us to an ancestral existence that had nothing to do with cellophane-wrapped foods, central air conditioning and the other creature comforts that today are called necessities. It may be a little hard for Mr. and Mrs. Suburbanite to believe that some primitive instinct has anything at all to do with their deciding to attach a pop-up trailer to the family sedan. They simply don't believe that the smell of a wood fire and the act of being close to a sunrise or a sunset is a sort of return to nature, but I contend that it is, and even though modern camping becomes a bit more organized each year, the lure of the woods lies latent in all of us. It is just below the surface for you and me and takes but a little digging for others.

Independence

Because I am a flag waver and there is no point denying it, I further believe that a strong streak of independence prevails in most of us. We have almost become adjusted to the mechanized, socialized and computerized world that has us all wrapped up in our synthetic cocoon. Almost, mind you, but not quite. When pressures of this sort of existence become unbearable, outdoor activities are a logical escape. For some, the escape channel can be bowling, tennis, or an evening of poker. Diversions of this kind work for awhile, but sooner or later raw instincts prevail and you've got to do something that also provides a clean

**The Game Law
Violator Is
Stealing From You!**

breath of air. Two months ago, in this column, we talked about things to do while on a camping trip. Most people, as we pointed out, are not content just to sit there. They have to do something. In general, I agree with my own statement, but there is certainly something to be said for just sitting out there in a wooded setting and doing nothing. Reflecting back on my own words, which is a dangerous thing for any writer to do, I find that I have done just exactly that on many occasions. In fact, the more I think about it now, the more I recommend it. Thinking about what you're going to do next while on a camping trip or, for that matter, on your everyday job, requires a certain amount of peaceful meditation. Perhaps the Indian gurus have something after all. It's particularly difficult for an individual to know and understand what his goals are and what motivates him if he doesn't spend some time reflecting. A camping trip can be the perfect vehicle for this kind of review.

Many New Campers

It probably won't be because of this column or a dozen others like it, but camping, as a sport, is attracting thousands of new followers each year. The end is not yet in sight. The faddist that we spoke of earlier will come and go. The occupational campers who must be out in the woods will probably decrease. But the recreational camper — the hunter, fisherman and family group — will continue to grow. The economy and population guarantee it. The real burden of providing places for all of these people to camp is one of our largest recreational headaches. It is very easy for anyone who owns a small plot, a field or forest, to erect a couple of shower stalls, put some little cardboard numbers on stakes driven into the ground and call it a camping area. This type of setup is a stopgap operation at best. I'm not about to call for an expensive federal or state program to accommodate the

Where Is My Reply?

Many individuals each month are disturbed because the Game Commission did not answer their inquiries. There is a reason for unanswered mail. The greatest problem is that it's often impossible to read the writing. Print name and address. Many fail to include their street address and city. Print complete return address and name on letter and envelope. Do not send cash. Enclose money order or check.

If you have not received a reply to a letter, one of the problems mentioned above is probably the reason.

ever-growing army of campers, but from a philosophical standpoint, we must prevent the rabbit-warren kind of campground from becoming the norm. Some people do want a lot of company at the campground, but a lot more want privacy. It is difficult to satisfy the back-to-nature urge when you have your elbow in your neighbor's kettle. Some recreational planners in certain states have had considerable foresight and have made attempts to solve this problem. Most have not. In many cases, this is not really anybody's fault. The camping boom, like the boating boom of the 1950s, has taken everybody, including the manufacturers, by surprise. The boating business reached its peak a few years back and has leveled out. I think the same thing will happen in the camping business. We're still going up, however, and probably will continue to do so for at least the next five years. Then, this leveling out process will occur here too. The number of campers will not decrease when we reach the peak, but stabilize at a high level. I hope the recreational planners are a match for this challenge.



NED SMITH
1969



GONE FOR THE DAY

By NED SMITH

May brings a trusting grouse, a posing squirrel, an unambitious box turtle and silent deer--as well as hungry glossy ibises, swarming bees and a swimming heron . . .

ANYONE who endlessly snoops around the woods and fields is bound to make some surprising discoveries. And yet I must confess that some of my best photos, my most interesting observations, and my most cherished experiences have been the result of friendly tips from other observers of nature.

In this column last winter I described the beautiful "ribbon frost" extruded from the hollow stems of a certain plant and expressed regret at having forgotten what plant produced them. Moses Renno, a GAME NEWS reader from the Mifflintown area, remembered seeing some of these formations. He went to the trouble of hiking back to the spot and making some splendid drawings of the plants, from which I was able to identify them as dittany—an old favorite source of "tea." Soon afterward Mr. and Mrs. George Thomas, from Malvern, sent me additional information and sources of reference material on dittany and its frosty creations. And that's but one example.

Last May I went to the door to find a neighbor, Henry Snyder, standing there with an I-know-something-you-don't-know look on his face.

"Can you spare about ten minutes?" he asked. Now, you don't say no to a guy whom you suspect of having vital

information, and I didn't. Instead I followed him to his car.

"You told me to let you know if I found a fox den this spring," he explained as we drove up the highway. "Well, I found one—and you'll never guess where it is."

He was right; I couldn't have guessed in a hundred years. The den was concealed beneath the roots of an oak tree only twelve feet from the edge of a country road which I occasionally travel.

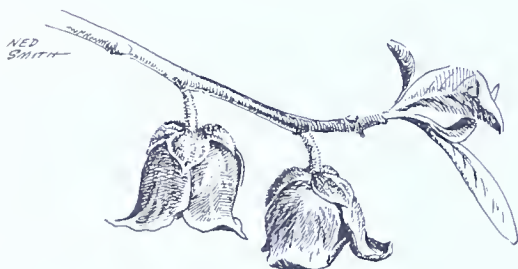
Returning later with a camera I sat there in my car and photographed the unsuspecting pups at a range of ten feet with a telephoto lens. It sounds boastful to say that one of the color shots is the most beautiful fox picture I've ever seen, but I don't claim the credit. Luck accounted for the quality of the picture, and without a tip from a fellow-outdoorsman I'd never have suspected that drive-in fox den was there.

May 1—This morning in a sandy spot along the river I came across the strange, little known, and usually overlooked flowers of the pawpaw tree. Short-stemmed and somewhat bell-shaped, their turned-back petals are an unusual shade of brownish purple. It is not at all surprising that they produce strange fruit—oblong green

"custard apples" filled with edible yellow pulp.

May 2—I hadn't been inside the little cloth blind in Portzline's hollow more than a half-hour when the cock grouse came by and mounted his log to drum. For a while it looked as though he was going to spook—I guess he noticed the new and rather large strobe light I had fastened to a nearby tree—

PAWPAW BLOSSOMS



but instead of flying away he walked to the other end of the log, stepped down onto a low rock, and did his drumming there. As he was out of range of the light there was nothing to do but wait and hope. Fortunately, he soon decided the light was harmless, and returned to the worn spot on the log which was his usual podium. For two hours or so he drummed every three or four minutes, and I got all the pictures I wanted. Then he left as abruptly as he had come.

Before I could dismantle my gear I heard a gray squirrel approaching. On a hunch, I turned the power pack on again while he rummaged around behind the log. As though it were planned he suddenly peered over the log precisely where the camera was trained on the grouse's drumming spot, and I snapped what should be a cute picture of him with a butternut in his mouth.

May 3—After looking over a friend's plowed field several times this spring we made one last inspection, and we're glad we did. Marie was most successful. Her first find was a small but extremely well made flint spear point with skillfully formed corner notches. A second, but larger, black flint spear point was beautifully flaked but the base was slightly damaged. Her third point was a rather crude spear point—like the second a late Archaic projectile possibly three or four thousand years old.

My only find was a triangular arrowhead. Archaeological evidence supports the theory that the bow and arrow were not used in what is now Pennsylvania until a few hundred years B.C., and that the triangular point, without notches or shank, was the only form of arrow point used here. The other types are chiefly spear or javelin points—even the very small notched types.

May 7—Business was poor at the upper drumming-log blind, except for a few busy squirrels, several foraging thrushes, and a box turtle that required a half-hour to pass the blind. About four p.m. I heard a slight noise and through the peephole saw three deer moving toward the blind. Two were bucks with velvety antlers less than two inches long; the other was a doe.

For all their speed when frightened, deer can be incredible slowpokes when relaxed. This trio was relaxed—so much so, in fact, that they eventually lay down about fifty feet from the blind. For two hours I managed to avoid coughing, sneezing, bumping the blind, or banging my equipment in the cramped confines of the blind, and they chewed their cud in blissful contentment. Then one by one they got to their feet, stretched, and moseyed off through the woods. Their silence was eerie. Had I not been listening intently they could easily have come and gone undetected.

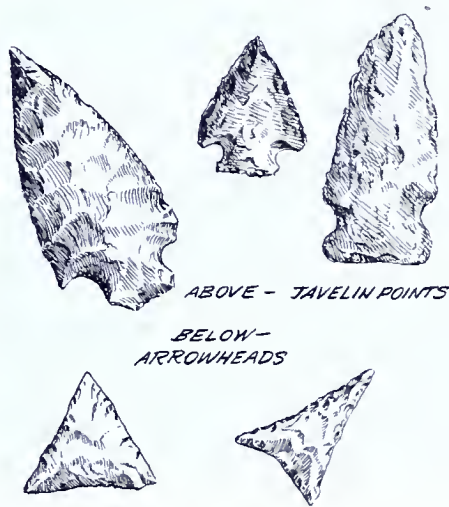
May 16 — There's always something new or unusual popping up in the out-of-doors, so Jack's announcement that there were glossy ibises in Bolig's bottomland was not doubted for a moment. It did come as a surprise, though, for these wading birds are typically tropical or subtropical in distribution. In the late '40s I had seen a pair that made ornithological history by nesting in South Carolina; before that time they nested only in Florida and the Gulf States. However, in late years they have been extending their range northward, and a few wanderers have turned up as far from home as New England and southern Canada.

When I arrived at the rain-soaked meadow the exotic looking creatures were there, picking food out of the sod with long, curved bills. They were strangely colored birds, with glossy metallic green and gunmetal wing coverts and purple-brown bodies that gleamed like burnished copper. Most of the food items they found were unidentifiable, but one bird was seen to kill a frog with whacks of its bill. The other ibis hurried over with larcenous intent, but the successful one galloped off with his prize.

May 18—The courtship antics of certain birds are every bit as silly as those of love-struck humans, and flickers are particularly zany. Today I heard some "whickering" out along the ridge, and before long two male flickers and a female swooped to a noisy landing in a nearby tree. All were hollering excitedly, and while the female perched stiffly on a limb her suitors pursued each other crabwise around the trunk of the tree, bowing and wagging their heads. When one flew to a horizontal limb the other perched beside him. There they faced one another inches apart, with heads thrown back and tails spread to display their gorgeous yellow linings. Heads bobbed up and down and from side to side in accelerating tempo and the *whick-ups* came faster and faster.

In flicker courtship the roles are apparently interchangeable, for the female joined first one male, then the other, in the bowing routine, until it was difficult to tell which was the suitor and which the pursued. Only the males' black "mustache" marks identified them. At intervals all would fall silent. Then a movement on the part of one would trigger the performance again. Suddenly they left, bounding through the treetops and out of sight. I don't know how or when the female made her selection, but at that time she seemed to be playing the field.

A male and female scarlet tanager I saw in the afternoon were already taken with one another. She, working the age-old helpless-female routine, begged for food like a nestling with open bill, quivering wings, and piteous pleas. The brilliant male, gallant protector of the weaker sex, plucked inch-



worms from the surrounding foliage and popped them into her mouth. At first it seemed silly, but on second thought it struck me as a more practical demonstration of bread-winning ability than making muscles on a public beach.

May 21—Late this afternoon I spotted what first appeared to be a hornet nest in a fencerow near Matamoras. At

closer range it proved to be a swarm of honeybees.

When a colony of bees outgrows its hive and produces additional queens the old queen takes wing, accompanied by thousands of worker bees in a dense, swirling cloud. Eventually they settle on a tree or building while scouts are dispatched to find suitable quarters in which to establish a new colony. It was a swarm such as this that I found drooping from the forked



branch, thousands of bees clinging together in a solid, living mass that would have nearly filled a bucket. Somewhere in the center was the cause of it all—a queen who could not tolerate the presence of an upstart in the palace.

May 23—We were surprised to hear a quail's *bob-white* outside my studio window this morning, and even more surprised to find it was not Bob at all, but his drab little mate. I had never seen a bobwhite hen sing, but she was perched in the walnut tree about twenty feet from the window and there was no mistaking her sex. A male across the road replied to her every whistle, and while his song was slightly louder and more piercing we could not have detected the difference without the on-the-spot comparison. Some ten minutes later he flew by the house and she followed him down to the orchard.

May 25—This month has been full of revelations. Just before sunset I saw a bird land at the pond, so I picked up the binoculars and sneaked down to investigate. What I found was a black-crowned night heron standing at the water's edge and staring longingly at a school of small bullheads that periodically came churning to the surface. They were in water too deep for the length of his shanks, but he waded out as far as he could. Then, with the water lapping his belly he shoved off, swam five or six feet out into the deep water, snatched up a bullhead, and returned to shore. As he gulped down the squirming fish I wrestled with the obvious question. Is a swimming heron really a rarity, or have I been missing something?

Taxidermy Examination

The 33rd annual taxidermy examination will be given June 24 at 10 a.m. in Huntingdon. Any person desiring to take the examination should make application by May 15 either to the Harrisburg Office of the Game Commission or through his local District Game Protector.

Applicants must be at least 21, and must present six specimens mounted by themselves to the Taxidermy Examining Board at the time of the exam. The specimens must include: one deer or bear head (preferably deer); one small mammal; one upland game bird; one duck or other waterfowl; one hawk or owl; one fish or reptile.

About the Clout

By Keith C. Schuyler

Photos by the Author

ALTHOUGH IT MUST first be admitted that it is certainly a novelty, the Clout Shoot is probably the most colorful of all formalized shooting. It is rarely seen except at official National Archery Association or Pennsylvania State Archery Association shoots. And although the score does not count toward establishing the all-around champion in Pennsylvania, none should pass up the opportunity to participate.

A Clout is one of the more exhausting activities for target archers. For example, in the men's division the target center is set at 180 yards. Six ends of six arrows each are shot. This means that each archer must walk a total of 2160 yards, well over a mile. This does not include the considerable tramping around just to score the event and to take turns on the shooting line.

Even the ladies must walk almost a mile shooting at 140 yards. This is also the distance for intermediate boys. Other distances are 120 yards for Women, Junior Boys and Intermediate Girls. Junior and Cadet boys and girls shoot at 80 yards.

The preceding paragraph is a clue as to why the Clout is not shot more often despite its popularity where it is available. It takes a large area to lay out the target so that there is sufficient overshoot for safety's sake. Further, the ground must be flat so there is no disadvantage to those who have previously shot over a proper target layout.

The target itself deviates from the conventional in that it is either an actual or an imaginary circular ring 12 times the size of a normal or standard target face. This means that the



WITH TARGET PLACED at 180 yards, it requires a high-angled bow to cast an arrow the full distance, as these men on line illustrate.

target is actually 48 feet across. Where the actual target is laid out on the ground by means of white lines, each line must be approximately two inches wide and of a material which is non-injurious to arrows. In keeping with the ratio of 12 to one, the gold or bullseye is 9½ feet across.

However, in lieu of an aiming spot, since the target is actually horizontal to the ground, a white marker not less than 30 nor more than 36 inches square is mounted perpendicular to the ground in the middle of the "gold" area. In the center of this white marker a solid color disk not more than 9.6 inches in diameter may be used.

Scoring and Rules

Rules and scoring are the same as is used in National Archery Association target tournaments. One exception is that rebounds—arrows which bounce off the ground or the aiming spot—are scored according to where the point of the arrow lies when it is picked up.

After each end of six arrows, all shooters go to the target area. For scoring, a chain, wire or a tape, painted off in gold, red, blue, black and white in measurements which conform to the actual target, is used. Since the device is 24 feet long, divided into five equal parts, each scoring area is 4.8 feet in width from the center of the target. One archer is assigned to each of the colors. Two others then hold the tape so that the gold end is in the exact center of the

target. The tape is then rotated about this center, closely followed by those picking up arrows. Each arrow picker touches only those which are in his area. For example, the archer picking up those in the red, or seven ring, will collect *only* those within his scoring area.

Meanwhile, all arrows outside the scoring area are removed.

When all arrows are collected, they are placed in five piles within the scoring area as the shooters gather around. Each archer, in turn, identifies his own arrows in each of the piles, and they are scored accordingly.

When scoring is completed, archers go back for another end until each has shot a total of 36 arrows. A perfect score, since nine is the maximum that can be scored for each arrow, would be 324. It is actually amazing how well some archers are able to lob their arrows into the treasured gold.

Bows must all be hand held, and they may not operate by any mechanical means. A number of sighting devices are employed, one of the most popular being the prism. It is necessary to hold the bow at about a 45° angle to reach the target area, and a

ARROWS CLUSTERED like standing wheat around two Clout targets show accuracy attained by bowmen at almost two football field lengths.





AFTER SHOOTING, ARCHERS MUST score their efforts. During a Clout shoot, male participants walk more than a mile to do this.

group of Clout shooters makes a colorful picture as each draws to shoot.

Shoots are normally held in early morning or late afternoon, if possible, since wind can be a most disturbing factor when shooting at such long distances. Few of those participating have had much if any practice beforehand, though it is evident from the scores that certainly some have had the opportunity to brush up on this type of shooting before hitting the tournaments.

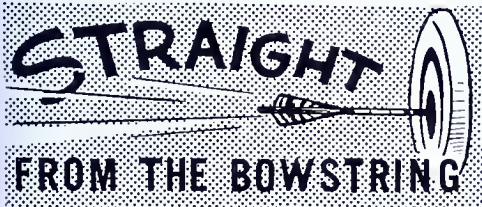
Photographs illustrating this column were taken at the 1968 target shoot of the Pennsylvania State Archery Association in State College. And, history was made. Clout records fell almost like the arrows that established them. Smashing the all-time 180-yard Pennsylvania record in the Clout, as he did in three other events, was young John C. Williams, who eventually carried

the 1968 Pennsylvania all-events crown home to Cranesville.

John's 312 Clout score topped by two points a new professional record established by John Kleman, Latrobe, at the same shoot, and the old amateur record of 310 set by Thomas Nara in 1965. Linda Myers, York, tied the 304 resident record at 120 yards established in 1967 by Diane Oden, Ruffs-dale. At 140 yards, Intermediate Stephen Lieberman, Reading, gathered a 308 for a new top at that distance. Both Cadet records at 80 yards fell when Robert K. Taylor, Pittsburgh, collected a 304 for the boys and Cheryl Stauffer, Palm, garnered a 286 to lead the young ladies.

A total of 56 men entered the Clout in the 1968 shoot. Since it is not a required event in establishing scores to determine the Pennsylvania champion, about half of those entered in the tournament elected to sit this one out. Unfamiliarity and lack of practice sometimes discourages participation. However, it was evident by the scores that a number were going along for the experience.

It was tough competition toward the top. Only 16 points separated the





SCORERS WALK behind marked tape to retrieve arrows from target outlined on ground. Bullseye measures 9½ feet at the 180-yard range.

four highest shooters. The next five archers had identical scores of 278. Although there were considerably fewer competing in the Women's and Boys' and Girls' Clout events, nothing can detract from the record-breaking scores turned in for every division but the Junior Boys.

Origin of the term "clout" is not difficult to track down. It comes from England where the term was once used to describe a piece of cloth or leather used for patching. Since the aiming spot, which was once the actual target, was a cloth or something similar stretched between two sticks, "clout" was a natural.

As a shoot, the Clout was simply a variation of roving in which a single mark was chosen as a target rather than a series of marks. The English shot anywhere from 180 to as much as 240 yards. As it developed into a game, a white straw target about three feet in diameter with a black spot in the center was used. Only arrows which actually hit the target were

counted a full score of two points. In addition, the arrow which missed the target but which came closest also scored one point. Consequently, if no arrows hit the target, which was common, there would be only one score for the end—the one arrow nearest.

For practice, the English would shoot at the rings. These rings were marked off at three, six, nine and 12 feet, much in the manner that today's Clout target is laid out. Scoring was 5, 4, 3, 2 and 1.

Scotland's Clout

Although any company of archers makes a colorful sight, it is nothing compared to the pageantry associated with the Clout in Scotland. Prizes of note were offered for the matches, which were preceded by a march to the place of shooting led by the bagpipes. The number of arrows to constitute an end was frequently decided upon by the judges at a match.

The English and the Scots set up a triennial series of shoots beginning in 1890 which continued well into this century. There were from 10 to 12 men on a side. This led to four matches from 1878 to 1887, with the Scots taking the first three of the series.

In the United States, the Clout was first shot at Cooperstown, N. Y., in 1922. A 40-foot ring with a four-foot target was used, and the distance was 180 yards. The Americans arbitrarily established their own scoring system with 3 tallied for a hit in the Clout, 2 for the nearest arrow and 1 for every hit within the 40-foot circle. Dr. Robert P. Elmer won the shoot with a score of 36, including three Clouts, or hits in the target, in a heavy wind.

Although this early approach seems

Give

GAME NEWS

To a Friend . . .

somewhat crude compared to the present system, it must be considered that archery tackle was also crude by comparison. Many of the bows of that day would barely loft an arrow 180 yards. In fact, Dr. Elmer modestly attributed his success at the first Clout to the fact that his bow would just carry the distance, and all he had to do was adjust for the wind.

Target Devised

There was no essential change in what had become known as the American Clout Shoot until 1925. At the Eastern Archery Association shoot, a target was devised in which a four-foot target was laid flat on the ground, the red circle was four feet wide and each of the blue, black and white were six feet in width. Men shot at 180 yards; women at 120. A total of 72 arrows was released, and the winning men's score was 64 hits for a total of 282, shot by Dr. P. W. Crouch.

Later that year, at the National Archery Association tournament held in Rome, N. Y., success of the experiment at the E.A.A. meet led to the system which appears to have remained essentially unchanged to this day.

It is interesting to note that the same Dr. Crouch emerged winner at the Rome tournament with 36 hits out of 36 arrows for a total score of 172. This was considered an excellent score in its day. Yet, it is considerably under the 312 posted by John Williams last year. In fact, Dr. Crouch would have placed 50th in a field of 56 shooters at Pennsylvania's 1968 tournament!

Underhanded Aim

In the early days of English Clout shooting, an underhanded aim was frequently used. Since the aiming spot in the center of the target was somewhat below the archer's bow hand when drawing down (or up) on the target, it was common to find a spot on the lower limb with which to line up the Clout.



WHILE WAITING TURN to shoot, archer uses a spotting scope to watch arrows plunge into target area. Entire scoring area is 48 feet in diameter.

Today, even modern sights are useless with any but the most powerful bows, because of the considerable trajectory necessary to loft an arrow 540 feet to the target. Prism sights, which refract the image, largely compensate for the unusual angle necessary to hold in a manner which will get the arrow into the desired area. Point of aim, in which a white object is placed in front of the shooter as a reference point, is employed by some. However, any system which requires the archer to look elsewhere than at the aiming point in the center of the target has its disadvantages.

In each archer is the same desire that prompts little (and sometimes not so little) boys to throw stones into the water just to watch their arc and to see where they hit. It is unlikely that the Clout will ever claim the number of devotees dedicated to punching the gold from an upright target. But its tradition and its novelty seem destined to keep it on archery's scene forever.



Guns for Back-Pasture Grizzlies

By Don Lewis

Photos by Helen Lewis

HELEN LEWIS and John Coleman display a pair of "little grizzlies" she bagged at over 300 yards with her Red-field-scoped 7mm Magnum.

ALMOST EVERYONE I know fears winter. It's during the long, bitter cold months that the demons of flu, arthritis, and the common cold plague our society. The winter is spent trying to avoid getting sick. There are a few of us who don't worry too much about getting sick. We live contentedly, knowing full well that a fate awaits us that makes wintertime sickness seem insignificant.

When the strong rays of springtime sunlight lick up the last patches of snow, a strange transition begins in our bodies. Our bloodstreams fill with an invigorating tonic. The weariness of the long, cold winter disappears and a new brightness comes into our lives. Our nostrils burn with the odor of new-cut hay. A dreamy, faraway

look becomes noticeable. A voice beckons. It's the call of summer winds, the soft warm earth, and the grizzly of the pasture field. We must answer; we're victims of "the fever"; we're chuck hunters.

If you have never experienced what I know to be the truth, join us. I'll stake my favorite pasture field that you'll fall victim to this incurable malady that torments the mind and tears at the innards. All I ask is you get yourself a chuck outfit. You'll find out for yourself. If you'll lend an ear to what I have to say, chances are next spring you'll be just as miserably happy as I am now.

Chuck shooting ranks high in the realm of hunting. After 30 or more summers of constant battle between me and the grizzly of the back pasture, I know what a great sport it is. I also know that many hunters don't realize this. The age of affluence we live in apparently has made us think

in terms of financial outlay only. Trips to the West, trips to the North, and big game hunts far and near overshadow chuck hunting. Some hunters feel if \$1000 isn't spent, a hunt is a waste of time. The emphasis is on big game and big hunts. I reckon no one will believe me when I say it's easier to hit a moose than a chuck. Who, in his right mind, you might ask, would compare a simple chuck hunt with a trip for antelope? Not too many, I suppose. One man, who thought all chuck hunters were slightly touched, explained to me the thrills of his antelope hunt. It sounded great, but I lost interest when he blurted out that it was the forty-fifth shot that downed his pronghorn. He admitted it was just herd shooting, and someone got an antelope after each barrage. Don't misunderstand me. I know plenty of fellows go West and make clean kills with well-placed shots. But I do think you'll agree that I have a point.

Chuck hunting gives me an opportunity to use the hunting knowledge I have learned through the years. I don't have to rush, and I can take all the time I need to calculate range and trajectory. After I have worked out an aiming point, the shot will prove whether I knew what I was doing. After all, the whole idea of chuck hunting is precision shooting and not just to bag an animal such as in most big game hunting. A chuck hunter worth his salt is a combination of engineer, surveyor, and responsible citizen. He's demanding of himself and his equipment; he knows his rifle's effective range and he's self-obligated to make clean kills.

To the beginner, chuck hunting might seem to require too much expensive equipment. Most of the articles



SOME PET CHUCK rifles of Don Lewis: Browning T-Bolt 22 rimfire; 25-06 Imp. with Weaver V8 scope; M70 Winchester 243 with Redfield 4-12X variable; 220 Swift on Mannlicher action with Unertl 20X target scope.

on chuck hunting talk about Super Rockchuckers, Improved Zippers, wildcats, magnums and such. It does seem that unless you own special equipment, there is no place for you in the world of chuck hunting. But this is wrong! The nicest part of it is the simplicity of equipment that can be used. All types of fancy equipment can be purchased, but it isn't really necessary. I shot my first chuck in 1933. If I recall, I used a Model 60 Winchester single shot 22 rifle. It wasn't more than 30 yards, but, to me, it was a crowning achievement. The chuck was coming out of a hole above a creek. When the rifle cracked, the chuck lurched forward and slid down the dust bank to the creek. It may sound trivial, but, as a 12-year-old boy, I couldn't have been more thrilled by stopping the charge of a Cape buffalo.

Since I just mentioned the 22 rifle,





FOR SHORT-RANGE offhand shooting at woodchucks, Lewis likes this little Remington M511 with 5X Winchester scope.

let's see how it can be used successfully as a chuck outfit. The 22 long rifle bullet hits a speed of over 1300 fps. The solid bullet weighs 40 grains, and the hollow point 36 grains. The kinetic energy of the 40-grain slug is 160 foot pounds at the muzzle and 95 at 100 yards. The hollow point's KE is somewhat less, though it is a more effective bullet on game. This is not an impressive amount of energy even for small game, so the 22 rimfire rifle obviously is a short range chuck outfit. Precision is the 22's greatest contribution. Yardage should be held to 75 or less, but head shots can be made every time at such ranges and a sense of accomplishment grows with each shot. The 22 rifle is a must for every beginner.

Bee and Hornet Still Good

Although the 218 Bee and the 22 Hornet have been largely replaced by the 222 Remington, there's no reason not to use them. They are much more powerful than the regular 22 or the 22 Rimfire Magnum. When you get

into their class, you enter the world of the centerfires. Each rifle is a dandy and has much to offer. I've heard some terrific arguments about their comparative virtues, but there's actually little difference. The Bee is slightly faster and has a lower arc of flight, but each rifle is definitely a 200-yard outfit at most. I'm not talking about how far each will kill, but what each one will do consistently and effectively. There's a whale of a difference.

Jacketed Bullets

Unlike the 22 rimfire slug, which is lead, the centerfires use a jacketed bullet—copper skin over a lead core. This permits a higher velocity. Lead strips out of the riflings at high velocities. The muzzle velocity of either the Bee or Hornet is over 2600 fps. The reason I claim these rifles are only 200-yard outfits is their bullet path beyond 150 yards.

Sighting in the Hornet 2" high at a 100 yards will give the following trajectory with the 45-grain slug: 1" high at 50; 2" high at 100; 1" high at 150; dead on at 170; 3" low at 200; 12" low at 250. This shows that the bullet really falls off beyond the 175-yard mark. Regardless of the limited range, these rifles are worth owning.

The 222 Remington, 22-250, and the 225 are rifles that can't be overlooked. The 222 did more for chuck hunting, and made more chuck hunters, than any other rifle, I believe. Perhaps it made its appearance just when a new cartridge was needed. It happens to be a new design and not a modification of another cartridge. Its popularity grew overnight. The 222 fever struck thousands. Bee and Hornet owners sat tight for several years waiting for the fad to die, but they too finally realized their faithful outfits couldn't compare with the zipping 222. Handloading also enjoyed a tremendous lift about this time—the 1950s. Maybe it would have all happened anyway without the 222, but I have my doubts.

The 22's chief assets are its mild report and blazing accuracy. Its effective range can be stretched to 275 yards with the 50-grain bullet. Best sight in is 2" high at 100 yards. Zero will be at 180, 2" low at 225 and 6" low at 275.

The Winchester 225 was brought out by Winchester in 1964 as a replacement for the discontinued 220 Swift. It's a fine cartridge but it hasn't stirred up much dust. It's built on a rimmed case, but can easily be adapted to actions designed for the 30-06. Since the case headspaces on the shoulder, it technically has to be called a semi-rim. The Swift's problem was barrel life. The 225 has somewhat lower velocity, and that—plus today's improved barrel steels—should add longevity to the life of a barrel. Naturally, it will handle any of the .224" bullets, but I think the heavier 52- and 55-grain slugs gave the best results.

Most Versatile Cartridge

The Swift may have been discontinued, but one of its contemporaries still is with us; it's the 22-250, the most versatile varmint cartridge available. With the 22-250, which began life as a wildcat but now is factory produced, any load from the Hornet to the Swift can be duplicated. The 52-grain bullets I chronographed zipped along at over 3700 fps with excellent accuracy. Trajectory-wise, it's hard to beat. Shoot it in 1½" high at 100 yards and it will zero at 240. At 300 yards, the bullet will be only 4" low. The maximum ordinate (highest arc of bullet flight) will be 2" at 165 yards. In other words, the bullet will travel 900 feet with only a 6" curve—2" high at 165 yards and 4" low when it gets to 300 yards. This stays well within the vital area of a standing chuck.

Not all chuck rifles are 22s. The 243 caliber offers several fine outfits. Either the Winchester 243 or the Remington 6mm will do the job. The 6mm case is slightly larger, but it's a tossup between the two, as I see it. Either case



JOHN COLEMAN shows chuck taken in stubble field with 22 rimfire cartridge. Target scope allows precise bullet placement.

handles bullets of 70 to 100 grains well, and their effective yardage approaches 350.

An interesting newcomer to the varmint scene is the 256 Winchester. Designed primarily as a hot handgun cartridge, it has worked its way into the rifle class. Marlin's Model 62 Magnum lever action was the one I tested. I didn't chronograph any of the tests, but ballistic records indicate a muzzle velocity of nearly 3000 fps with the 60-grain bullet. Accuracy was excellent at 100 yards, but some drop tests I conducted proved to me that the rifle has an effective range of no more than 200 yards.

There is still a lot of discussion in the field of big game hunting about scopes and open sights. Many deer and bear hunters want no part of a scope. There's no argument over



HIS HEAVY-BARREL 243 Winchester ready, Randall Fredericks waits for a "back-pasture grizzly" to present a shot.

scopes in chuck hunting. A chuck hunter not only needs a scope, but he needs the finest one he can buy. Whether it be a 22 rifle or a deluxe 22-250, a lot of consideration should be given the sighting device. After fumbling for years with all types of open sights, I finally saw the light. It happened years ago when a friend allowed me to use his 218 Bee that had a fine target scope on it. When I plugged two chucks at nearly 200 yards, I woke up to the fact that you can't shoot any better than you can see. From that day on, I've had scopes.

Scope Selection

The selection of a chuck scope is not too difficult. The 22 rifle adapts to the inexpensive 4X and 6X models. Variable power scopes can be used on most any chuck rifle so long as the cross hair is fine. Probably the closest thing to a combination scope is a straight 6X with a fine cross hair. It has high enough power for chuck shooting, and it can be used on big game rifles without any difficulty.

To me, nothing beats the target type scopes. The reticles in this type of scope are always fine, and some of them can quarter a chuck's eye at 100 yards. Remember, the reticle is the prime factor, and the power is secondary. Too many hunters think only in terms of high powers, but when the chuck hunter gets above 12X, he'll begin to have some problems. One is simply mirage — heat waves. Mirage blurs the target and makes a precision shot impossible. A lower power would have shown the target without any distortions.

The new chuck hunter has much to choose from and in a variety of prices he can afford. After he chooses his outfit, the next step is to learn to use it. The cost of finding out how well you and your rifle can perform will be money well spent. Keep in mind that chuck hunting is precision shooting, and a summer spent hunting chucks will make you a far better shot than any type of big game hunting. If you doubt my word, get a chuck outfit and join up with us clover waders.

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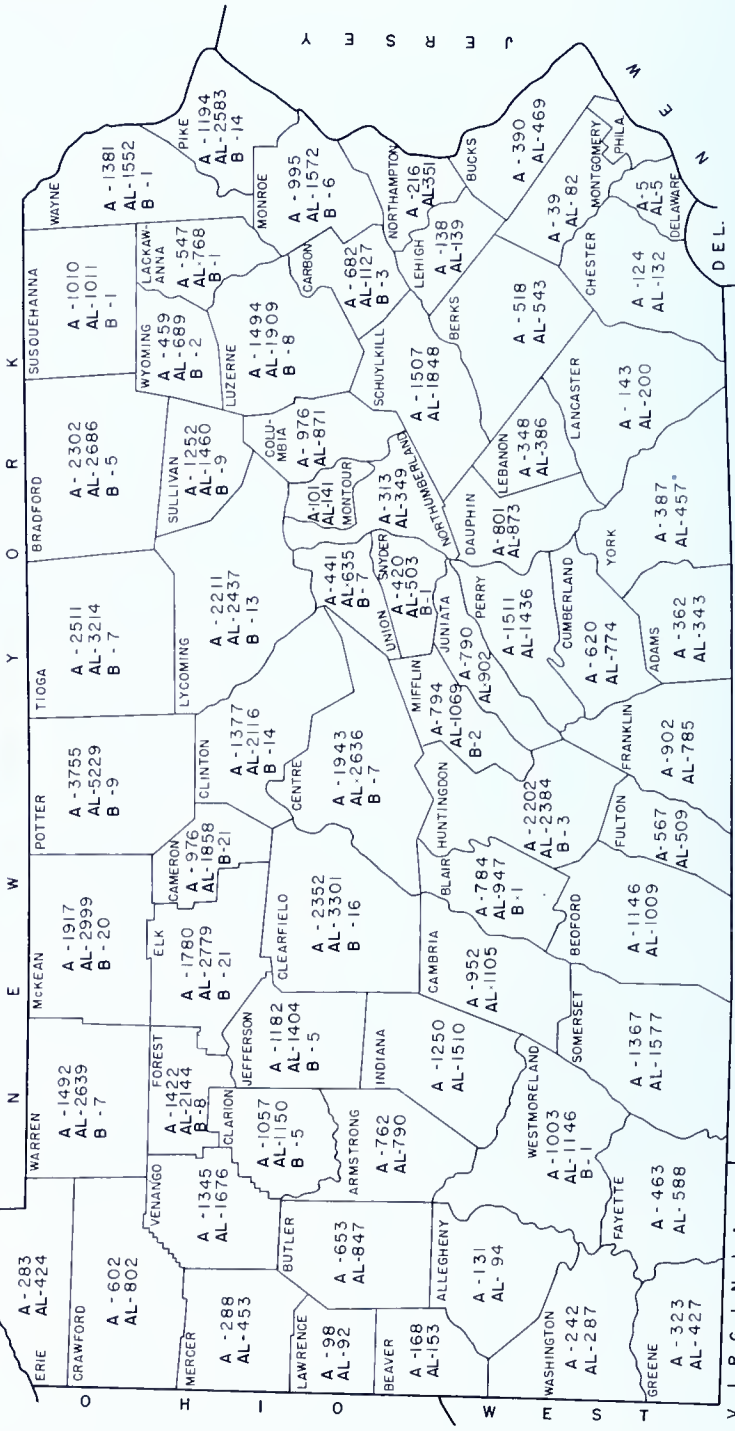
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1968

DEER & BEAR HARVEST

PENNSYLVANIA GAME COMMISSION
HARRISBURG



ANTLERED DEER (SYMBOL-A)		ANTLERLESS DEER (SYMBOL-AL)		Grand total BEAR kill.....218 (SYMBOL-B)		Grand total DEER kill.....141,874	
REGULAR SEASON.....	60,752	77,655				
COUNTY UNKNOWN.....	268	452				
ARCHERY SEASON.....	1,018	1,729				

1.6
2.40
5.6

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MAY 28 1969

Pennsylvania

GAME NEWS

JUNE, 1969

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COVER PAINTING BY NED SMITH

The red squirrel—also called the chickaree or pine squirrel—is the gossip of the woods, so vocal that he's been called the "crow" of the mammal world. He has something to say about anything and everything that passes within view of his sharp eyes. And he does it with a vocabulary far more extensive than that of his gray or fox cousins. He scolds, complains, chirps and whistles . . . and when he isn't sounding off, he's eating. Green pine cones and hickory nuts are favorite foods, and he won't pass up nuts, berries, seeds or fungi—as this month's cover shows. All in all, we're glad the red squirrel dwells in our woods. They'd be far duller without him.

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You Just Can't Trust Them . . .

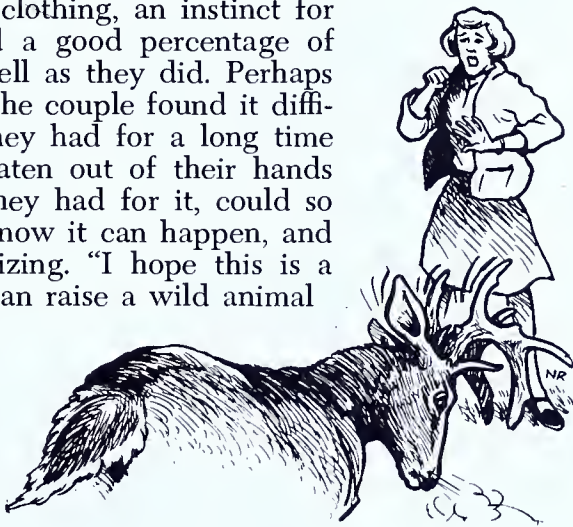
THE GAME COMMISSION often advises the public to leave wildlife in the woods. One reason is the animal's welfare. Another is concern for the safety of the persons involved with these animals, which literally are wild creatures that don't feel the affection toward humans that some humans do toward them. Consider this true story which occurred in west central Pennsylvania last November.

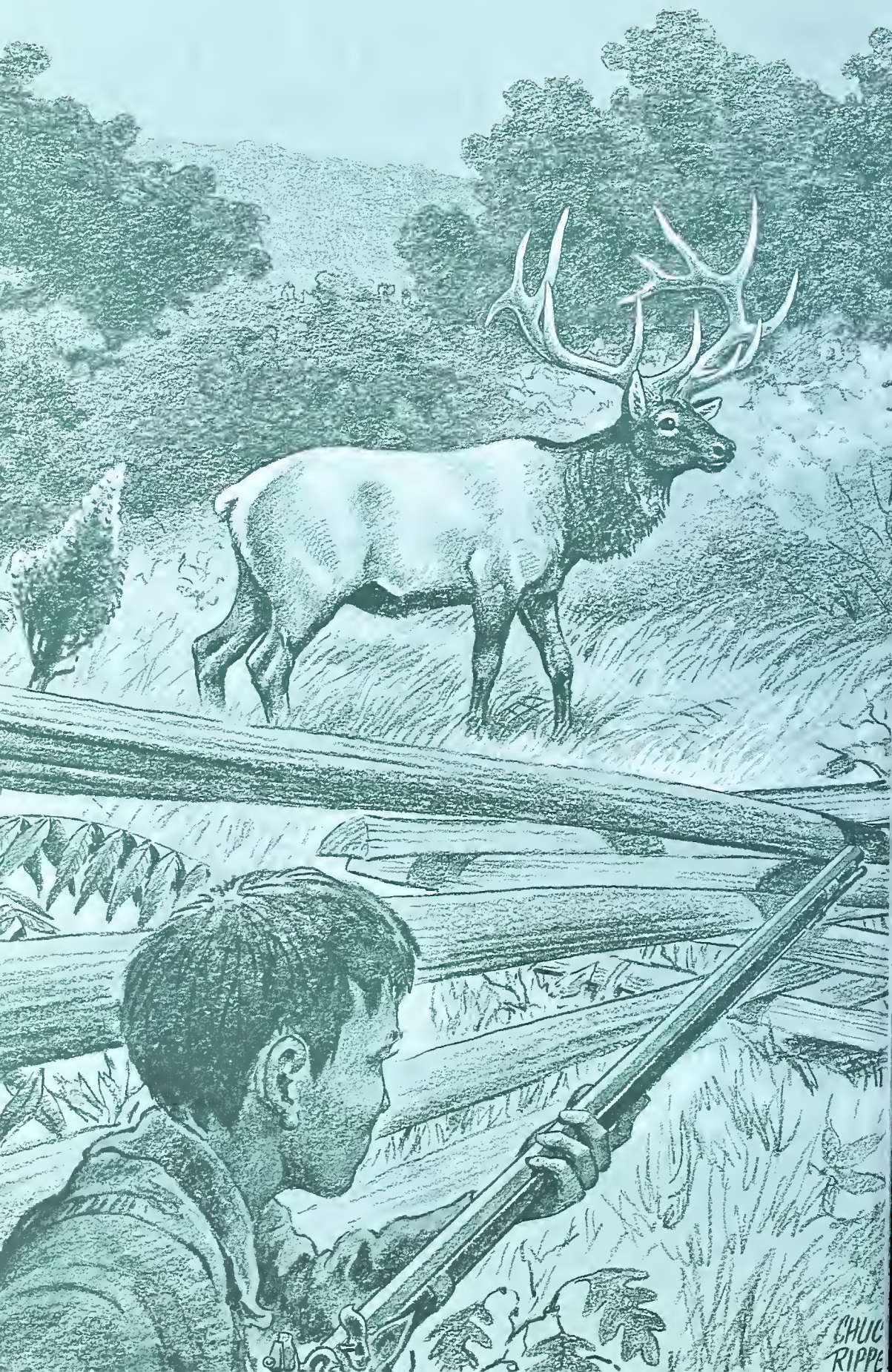
After a normal day working at their small business place, this woman preceded her husband home to prepare the evening meal. Their home was only a short distance from their business. Shortly after entering the house she glanced out a window and noticed that a pen which normally held a "pet deer"—a 10-point, 200-pound buck—was empty. Investigation showed the animal was loose.

Moments after the woman began looking for the deer, she was attacked by it. The crazed animal drove its antlers against her back, pinning her against an iron railing. She escaped for a second, but almost immediately was driven into a tree in the yard. Only her heavy coat had saved her from serious injury so far. As the deer backed up for another charge, she fell to the ground, managing to grab the animal's antlers at the same time. This possibly prevented it from trampling or goring her. She held on desperately as the deer pushed and dragged her around the yard, frantically searching for a way to escape. A small pine tree grew near the house, and as they passed it she managed to grab it and pull it into the deer's face. Momentarily startled, it jumped back, giving the woman the few moments needed to dash into the house. As she slammed the door, the buck drove its antlers into the wooden panels behind her.

Just then, the woman's husband drove home. As he got out of the car, she screamed that the deer had "gone crazy," but her warning was too late. The buck already was trying to gore her husband. The man fought the animal off and managed to run into the house, where he got a rifle and shot the deer.

Fortunately, neither the wife nor her husband was seriously injured, though both suffered severe bruises. Results easily could have been far different . . . tragic. Only heavy clothing, an instinct for self-preservation, quick thinking—and a good percentage of luck—let them come out of this as well as they did. Perhaps the biggest reaction was emotional. The couple found it difficult to understand how an animal they had for a long time treated as a pet, which often had eaten out of their hands and seemed to return the affection they had for it, could so suddenly go berserk. But now they know it can happen, and the wife's comment is worth memorizing. "I hope this is a warning to anyone who thinks they can raise a wild animal as a pet and domesticate it," she said. "I'm sorry to say, you just can't trust them." Remember this if you ever are tempted to bring a wildlife "orphan" home from the woods. You might not be as lucky as this couple.—*Bob Bell.*





AN OLD WHITE OAK

By William C. Grimm

Part Three

WHEN NEWS of the Declaration of Independence reached the western frontier, people cheered. Men and boys made huge bonfires. They hauled down the British flag and trampled it in the dust. They had had enough of the tyranny of their lordly masters in Parliament and of the British king. Soon, they hoped, a new flag—a flag of freedom—would wave above the American colonies.

Not all of the settlers were in favor of breaking ties with England. A few Tories steadfastly maintained their loyalty to the Crown, and the frontiersmen feared that these might ally themselves with the Indians. There were fears, too, that the British might encourage the Indians into taking up the hatchet . . . fears which soon would be realized.

The years of the Revolution were dreadful ones along the frontier. The British and their Tory allies armed the Indians with guns, tomahawks and scalping knives. Frontier forts were besieged. Settlements were attacked and laid waste. Crops were destroyed and isolated cabins were burned. At the British outpost of Detroit, Governor Hamilton was buying the scalps of settlers—man, woman or child—from the Indians. He became known all along the frontier as the “Hair Buyer.” Even Daniel Boone had been taken captive by the Indians, but he later managed to escape.

The settlers, however, were not to be discouraged. Frontier militiamen retaliated by destroying many Indian villages, often showing no mercy for any of their inhabitants. Along the seaboard the war ended with the surrender of Lord Cornwallis at Yorktown, but on the western frontier it continued for several years.

Few settlers crossed the mountains during the years of the Revolution, but as soon as it ended they moved westward in a flood. The sound of axes resounded throughout the valley where the big oak grew, and the

forest began to disappear. Men widened the old game trail, making what they called a road. They cut down trees to build cabins and houses, barns and fences. There were so many trees they never knew what to do with them all. The forest was everywhere. People wanted farms and the land had to be cleared, so many of the forest trees were simply felled and burned.

A large stone house was soon built near the old oak tree. The heavy timbers for it were cut from oak and walnut trees which grew in the surrounding forest. The stone was quarried on a nearby hillside. When finished it was one of the finest houses yet built on the western frontier. In fact it was every bit as elegant as many of the houses back in the eastern settlements. Behind the house stood a huge barn, and there were several lesser buildings. Many acres of land about the house were cleared. Some were planted with corn, wheat, rye, flax and other crops. Part of the land became grassy meadows or pasture land for cattle, sheep and horses. And there were orchards with apple, pear, peach, plum and cherry trees.

AS THE FOREST in the valley gave way to farms, new birds came to take the places of the forest birds. Meadowlarks, bobolinks, upland plover, killdeer and savannah, vesper and grasshopper sparrows nested in the meadows. Barn and cliff swallows plastered their nests of mud in and about the big barn, and caught insects as they flew above the surrounding fields. Bobwhite quail called from the thickets which grew up along the rail fences which separated the fields.

Shortly after the big stone house was finished, a number of men gathered there on the fourth of July to celebrate the nation's birthday. The former British colonies had been united into a new nation, the United States of America, and George Washington had become its first president. There was great rejoicing at the gathering. A new flag—with a circle of thirteen white stars in a blue field, and thirteen stripes of alter-

nating red and white—was fluttering in the breeze from a pole in front of the house.

Beneath the big oak tree the men assembled to drink a toast to the new nation and to President George Washington. Several of the men there had fought under Washington at the Brandywine, Trenton, and other places. Most of the others had fought the Indian allies of the British on the western frontier.

One of the men in the assembly had grown tipsy on the Monongahela rye whiskey. He playfully pulled a tomahawk from his belt. With a mighty heave, he drove its blade deep into the trunk of the big oak. When he tried to pull it out the handle broke.

"Let the durned thing stay there!" the man bellowed. At this the whole assembly roared with laughter, and the old Indian fighter let out what sounded like a war whoop.

The blade of the tomahawk did stay in the trunk of the tree. With each passing year less and less of it could be seen. The cambium beneath the bark of the tree added a new layer of wood each year and gradually covered it. Finally, it disappeared from view. It became deeply buried in the big oak's trunk.

THE YEAR 1794 was an eventful one on the western frontier. General "Mad Anthony" Wayne defeated the Indians at the Battle of Fallen Timbers. Thus there was no longer a constant fear of Indian raids. Vast lands to the north of the Ohio River would now be open for settlement.

The frontier was still relatively isolated from the towns along the eastern seaboard. The only roads across the mountains were those made by Braddock's and Forbes' armies. Wagons could rarely pass over them without breaking down, so transportation was still largely by horseback. Frontier people lived on what they could provide themselves or obtain from the forest. They wore homespun garments of linsey-woolsey or ones made of buckskins. Only such necessities as salt, coffee, tea, tools, iron cooking utensils, and guns usually came from the eastern settlements. There was very little money. People still bartered for most of their needs.

Farmers had difficulty in marketing the products of their farms. Flour was often sent down the rivers to New Orleans. That meant a hazardous journey of several months, through lands still inhabited by hostile In-

dians and white cutthroats; and the market in Spanish New Orleans was at best uncertain. They could not profitably send their grain to the eastern markets. A horse could carry but four bushels over the rugged roads. But when rye was converted into whiskey, the same horse was able to carry the equivalent of twenty-four bushels. That was much more profitable. So whiskey stills began to blossom in the land west of the mountains.

It was not long before the frontiersman's enthusiasm for the new government and its leaders cooled. The government badly needed money to pay its debts, and to help raise it an excise tax was levied on whiskey. That really stirred up a hornet's nest. Most of the frontier people, particularly the Scotch-Irish, had an inherited and deep-seated hatred of such taxes. They reasoned that they were being taxed for the benefit of the rich in the eastern towns, and they would be saddled with an army of government hirelings whose salaries they would

What Went Before

Years ago, in southwestern Pennsylvania, the author found the stump of a 400-year-old oak. Fascinated by thoughts of what must have happened in the area during the tree's life-span, he created this story. He told how a blue jay planted the acorn which grew into the oak, how it escaped chance destruction as a seedling, and how it grew into a large sturdy tree. For half a century an Indian village flourished around the oak. Eventually, the Indians moved away and hawks and owls nested in its branches in succeeding years. Then white traders appeared, and market hunters. They angered the Indians of the region and trouble resulted. The Indians lost their hunting grounds and the French built forts near the Ohio. This conflicted with British expansion to the west, and the French and Indian War followed. Not far from the old oak, the French defeated the British in a battle which took the life of General Edward Braddock, who would not consider advice on Indian fighting given by one of his officers, George Washington. Several years later, the Indians ceased supporting the French and the British took over Fort Duquesne. Settlers moved into the area, and one family built a cabin near the oak—only to be massacred by Indians, leaving the old oak again alone in its small clearing. . . .

have to pay. To them this was tyranny just as bad as that of the English Crown. They were determined to have none of it.

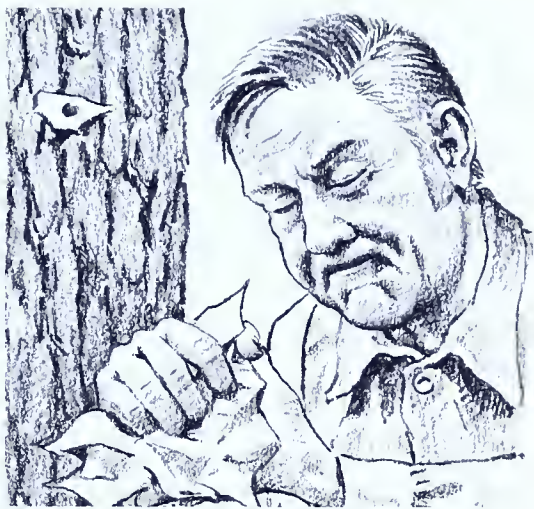
At many secret meetings the government, the infamous excise, and even President Washington were thoroughly denounced. General John Neville had long been a popular hero who had fought in the Revolution, but he promptly became a scoundrel when he accepted the post of revenue inspector. His tax collectors were soon waylaid, tarred and feathered, even threatened with their lives. Anybody who sided with the government and submitted to its tyranny by paying the excise became a public enemy. The flames of open rebellion were being fanned.

A CRUELY printed sign appeared one morning on the trunk of the big oak. It was a warning not to pay the excise tax, stating that those who did so would have their stills mended for them free of charge. The notice was signed "TOM THE TINKER." People knew that the mysterious Tom and his boys meant business. They had already "mended" some stills by shooting them full of holes.

Shortly after daybreak on the morning of the seventeenth of July, several armed men met at the big oak. They were soon on their way to the rendezvous to be held that morning at Couch's Fort. There they learned about the trouble at Bower Hill, the country estate of General Neville. Tom the Tinker and some others had gone there the day before, intending to capture the general. One of them had been fatally wounded by a shot from the house. The five hundred or so men assembled at the fort decided to march to Neville's place. They intended to demand that the general resign his post as revenue inspector.

The general was not at home, but the insurgent army found that the house was defended by soldiers from Fort Pitt. The rebels demanded that they come out and stack their arms. The soldiers refused. Someone in the motley army fired a shot at the house and the soldiers returned the fire. During a lull in the firing, the leader of the insurgents stepped from behind a tree and was felled by a shot from the house. Torches were applied to the outbuildings, the handful of federal troops finally surrendered, and soon the big mansion was in flames.

Early the next morning the men returned to the oak, and after the others had departed a lone figure stood by the tree. He tore Tom the Tinker's sign off its trunk, crumpled it in his hand, and slowly walked



A LONE FIGURE stood by the tree. He tore the Tom the Tinker's sign off the trunk, crumpled it in his hands and slowly walked to the big stone house.

to the big stone house. The man was worried about the affair at Bower Hill. He thought about the aged pastor's plea made to the men at the fort; how he had urged them to go home and warned them that blood would be shed. He was sorry that his old friend General Neville had suffered such a great loss; but he was glad that the general had not fallen into the hands of the angry mob.

The rebellion continued to rage throughout the summer. Mails were robbed, liberty poles were raised, there was even talk about forming a new nation west of the mountains. The climax came on the first day of August when a great meeting was held at Braddock's Field. But in the fall an army, led part of the way by Washington himself, was crossing the mountains to suppress the Whiskey Rebellion. Before the vanguard of the army arrived at Pittsburgh, the fire of rebellion had died and even ceased to smolder. People soon forgot the whole affair.

IN 1803, President Jefferson purchased the vast Louisiana Territory from France. Ohio became a state. The new nation was rapidly expanding westward and Pittsburgh had become a bustling frontier town. Boats were going down the Ohio and Mississippi in ever increasing numbers, and many carried settlers to the new rich lands in the West.

Within the next fifteen years the old Braddock road was improved and extended all of the way west to Wheeling. Stone bridges

spanned the streams, and along the road were spacious taverns with enormous fireplaces in their main rooms. Although ungraded and full of stumps and stones, the widened roadway was covered with a few inches of gravel. It was the wonder of its day. Those who used it paid a toll at the tower-like eight-sided toll houses. Some called it the Cumberland Road, for it started westward from Fort Cumberland in Maryland, but soon it became generally known as the National Pike, because it had been built with money appropriated by Congress.

OVER THE NEW road rolled a motley assortment of vehicles: farm wagons often pulled by oxen, two-wheeled oxcarts, chaises, brightly painted stage coaches, and big freighters called Conestoga wagons. The stage coaches carried both passengers and mail, often at the unbelievable speed of ten miles an hour. Their horses were changed at posts located about every twelve miles along the road. But not all of the traffic along the new road rolled on wheels. There was always a procession of lowing cattle, bleating sheep, and grunting hogs being driven by men and boys. The animals were driven eastward on the hoof, bound for the markets in the older towns. Many people traveled over the wonderful new road, some on horseback, others afoot.

The greater part of the valley was now farmland, but the forest still remained on the hills and the land beyond them. Now and then a wild turkey or a deer was taken in the valley, but both were rapidly becoming scarce. There were occasional reports that a wolf or a panther had been seen, and the passenger pigeons still flew over in immense flocks during their migrations. All of the farm boys loved to hunt, but usually they bagged no game larger than squirrels or cottontail rabbits.

One October morning a boy living in the big stone house went to the back pasture to bring home the cows. Shortly he came racing back. He ran into the house, grabbed his rifle, powder horn and bullet pouch, and bolted out the door.

"What's the matter, Randy?" his mother called. "Where are you going in such a rush with that rifle?" He paused but a moment. "I just saw a deer, Mom, a whoppin' big one!" was the only reply she got from her excited son.

Back to the pasture barefooted Randy ran, as fleet as a deer himself. When he got

there, he cautiously crept behind the thicket which grew along the old rail fence. The big deer was still there. He stalked as closely as he dared, carefully aimed his rifle, and fired. The large animal leaped as the rifle cracked. It started to run, then fell. When Randy ran up, he saw he had hit it in its shoulder.

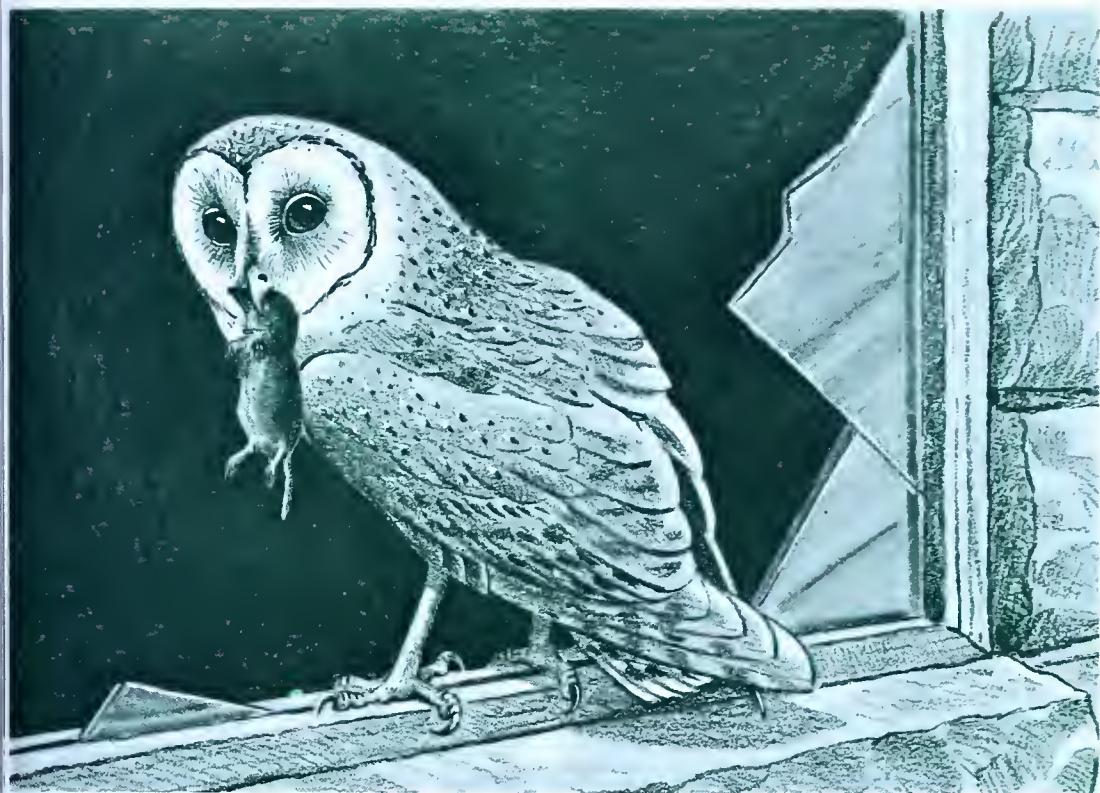
The animal was so huge Randy could not possibly move it alone. Remembering his chore, he hastily rounded up the cattle and drove them to the barnyard where his father was waiting. His father had been wondering what had kept him so long. Now he wondered what the boy had been doing with the rifle. Randy excitedly told him about the big deer. He begged his father to yoke up the oxen and help him drag it home. His father began to wonder. Surely the deer couldn't be that big. Still Randy insisted that it was, so they took the oxen and went back to the pasture.

When Randy's father saw the animal his son had shot, he was amazed. "That's no ordinary deer you shot, Randy, that's a bull elk," his father told him. He opened the animal with his knife and deftly removed its entrails. Then they dragged it back to the house and strung it up on a limb of the big oak tree.

Neighbors came to see the splendid bull elk that Randy had shot. Its antlers had a spread of almost sixty inches and it weighed almost nine hundred pounds. The old-timers were amazed, for they had all thought that elk had long since disappeared from the valley. Randy's elk, it turned out, was the very last one ever to be seen there. For years its immense antlers hung over the fireplace in the dining room of the big stone house.

DURING THE YEARS following the War Between the States a great change took place in the valley. Even the forest which long covered the steeper hills was cut and fed to the sawmills. And far beyond the valley the virgin forest was being cut with reckless abandon. Lumbermen moved on, leaving a desolate land behind them; and in the wake of the lumbermen came fire. Year after year flames licked the cut-over forest land, leaving little but fire-blackened stumps and snags. Young trees which might have grown into a new forest were repeatedly killed. No thought was ever given to the future. The wasted forest land was just taken for granted, a result of man's progress.

The stream in the valley, like most of the streams elsewhere, suffered when the forest



FOR SEVERAL YEARS AN UPSTAIRS ROOM of the old stone house was the abode of a pair of barn owls. . . .

was removed. Its water now was always muddy, for it was busily carrying away soil, soil washed down from the naked hills, off the plowed fields. In spring when the snows melted, or whenever heavy rains fell, it roared with rage. It often overflowed its banks. At times the raging flood waters carried away houses and barns, livestock, even people.

During the hot dry days of summer the stream shriveled. Sometimes it even ceased to flow. Farm animals died of thirst. Even people were often short of water as wells became dry. There was no forest with its sponge-like carpet of humus covering the hills. Water ran off the bare ground as it ran off a barn roof and rushed madly down the valley. Springs which once fed the stream throughout the dry summers no longer bubbled out of the hills. They died when the forest was removed.

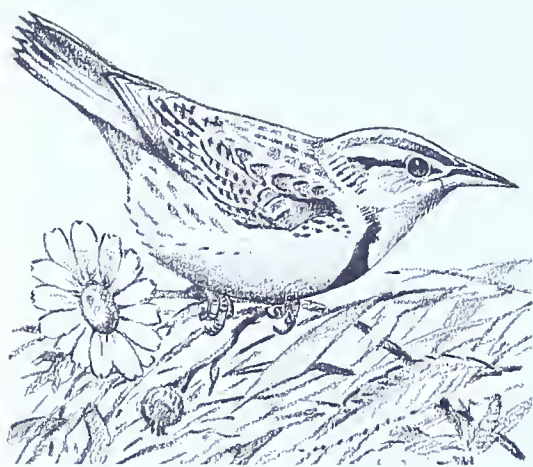
For nearly a century the people who lived in the big stone house had enjoyed a good living from the land. The fields had yielded bountiful crops, the loft of the great barn was filled with hay and by fall the cribs almost bulged with corn. There were always fat cattle and sheep in the fields, and the

smokehouse was full of hams and bacon.

With passing years, however, the Stone House Farm like other farms in the valley became less and less productive. The soil gradually grew thinner and thinner, stonier and stonier. Every hard summer shower had been stealing a bit more soil from the plowed land. It was pilfered so slowly that nobody realized it was disappearing. Farmers complained that the farms were wearing out. They were unaware of the fact that the fields were being ruined by erosion until gullies began to appear. Field after field, farm after farm in the valley was abandoned.

Young people who had grown up on the valley farms no longer stayed. They said they could not make a decent living there. Some left the farms to work in the towns. Others sought farms in the West, where they had heard there was still plenty of rich land. When the old people passed away, the farms in the valley were deserted.

A DAY finally came when the big stone house stood empty. Soon a thicket of shrubs and young trees grew up around it, almost hiding it from the road. As the years passed, its windows became just gaping holes



THE VALLEY gave way to farms, new birds came to take the places of the forest birds—meadowlarks, bobolinks, upland plover and killdeer. . . .

in the thick stone walls. Its timbers slowly rotted. The porch, then the roof and the floors began to sag, and the once elegant house looked desolate and forlorn.

Boys sometimes came to explore the ruins. They called it the "haunted house." For several years one of the upstairs rooms was the abode of a pair of barn owls, and there they raised several broods of young. Ghost-like, on silent wings, they flew in and out of the paneless windows. Had the boys ever stayed in the old house at night, and heard the weird sounds of the owls, they would have been truly convinced that the place was haunted.

FOR YEARS the big oak kept its lonely vigil over the ruins of the old stone house as the abandoned fields about it grew up in broomsedge and poverty grass, goldenrods and other weedy plants. Wild dewberries began to send long runners over the ground. A few thorny hawthorns appeared, followed by scattered sumacs and sassafras. Nature was valiantly trying to redeem the land.

Years passed and the wind-blown seeds of aspens, red maples, ashes and tuliptrees found their way into the old fields. Many of these seeds sprouted and some grew into thrifty sapling trees. Squirrels and jays scattered the acorns of the big oak far and wide and some sprouted and grew to be trees. Each passing year the fallen leaves and other remains of the pioneering plants added a bit more humus and helped to enrich the impoverished soil.

The larger game animals and big predators had long since vanished from the valley, but gradually deer started to return. Many of the forest birds came and made nests in the trees as a new forest clothed the land. But never again would the passenger pigeon or the Carolina parakeet be seen.

About the time the oak attained the four-century mark, a new era began to dawn. Men and women—at first just a few—decried the wanton waste of natural resources. The once magnificent forests had given way to barren, burned-over, eroding wastelands. Streams, once clear and pure and teeming with aquatic life, were now muddy, lifeless, often reeking with man's filth. Vast areas of once fertile farmland had been ruined by soil erosion. The destruction of wildlife had been appalling. Two hundred years before the Indian had been angered by the white man's destructive ways. Little could he have even dreamed how terribly destructive they were to be.

BUT WITH each passing year the American people became more conservation minded. The barren lands began to show green again when protected from the scourge of fire. Timber owners, realizing the folly of the past, began to treat their woodlands as tree farms. Farmers learned to use their land more wisely, preventing the loss of valuable soil. Wildlife benefited, too, not only by protection but also through the wise uses made of the land.

The big white oak was now long past the prime of life. Some years before, one of its large branches had been broken during an ice storm. Spores of fungi, unseen but ever present in the air, lodged in its jagged stub. There they grew and sent fungus threads deep into the wood, causing it to decay. Gradually, the fungus carried the decay deep into the wood of its trunk. A cavity was formed and orange-colored mushrooms began to appear on the surface. In time its massive trunk became but a hollow shell.

As long as the old tree lived, it continued to grow. Each spring it put forth new leafy shoots and its twigs bore tassels of fleeting flowers. Almost every fall its ripened acorns dropped to the ground, spreading a feast for the squirrels, chipmunks and noisy jays. But the big oak grew ever so slowly now. The layers of wood its cambium formed each year became very, very narrow. And then one day a windstorm broke its hollow trunk and sent the old white oak crashing to earth. Its long life was ended. . . .

A Bowman's Challenge

By Eldy Johnston

Photos by the Author

THE AUTHOR has accounted for a goodly number of groundhogs in his day, mostly with 218 Bee and 243 caliber rifles. Even the 38 caliber target revolver was credited with some of the whistle-pigs. And a few of the chucks were out "a fur piece," the kind of shots one hesitates to brag about, unless substantiated by a reliable witness.

But of all these groundhogs, bagged over a 35-year period and practically all in Potter County, one shot of less than 30 yards provided a bigger thrill and a greater feeling of accomplishment than any of the others. It was the first chuck that fell to my bow and arrow, an instant kill with a three-bladed bodkin arrow propelled by a 50-pound Bunyan bow. Since that 1951 incident (or accident), we have learned some payoff tactics for chuck hunting with archery tackle.



"THIS ONE IS good eatin' size," says author's wife, Gertrude, who has accompanied Eldy on chuck hunting forays for the past fifteen years.

Equipment

The adult groundhog is a toughie, as even riflemen will attest. For that reason, and also for valuable pre-season deer hunting practice, I use my 50-pound Bear Kodiak Magnum bow and micro-flite razorhead arrows with insert blades removed. The inserts would take quite a beating in heavy cover and rocky soils and the sharpened two-edged broadheads do an excellent job on their own.

For close ranges, 10 to 20 yards, or in heavy cover where arrow recovery may be a problem, I have found it a distinct advantage to use cedar flu-flu hunting arrows. These shafts have fletching designed to permit initial

high velocity, but slow it down at peak of arc to limit the range. On occasion, I have been asked to remove chucks from truck gardens in rural areas, and in such locales the safer flu-flu is advisable. The Kodiak Magnum is a short bow of 52 inches, quite maneuverable in heavy grass and brush, and therefore convenient when shooting from a kneeling position.

My wife, Gert, who has bow hunted with me for the past 15 years, has similar equipment. Her bow draws 43 pounds. Though we prefer camouflage clothing, common sense dictates that we wear fluorescent orange caps and vests in territory that may be frequented by long-range riflemen. A lightweight, compact pair of 6 x 25 binoculars, for looking over the terrain and locating chucks and den entrances, rounds out our equipment.



BACKYARD PRACTICE helps prepare archers for groundhogs in the meadows—and proves they don't make too big a target when the range is twenty-five yards or so.

The Quarry

An adult woodchuck usually averages about 10 pounds, but much heavier specimens have been reported. They have a voracious appetite for clover, grasses, berries, apples, corn and almost anything else that grows

in an orchard, farmer's field or garden. They are quite clean in their habits.

Chuck dens are usually located in or on the outskirts of cultivated fields, and consist of an entrance tunnel, fronted by a mound of dug earth, and one or more connecting holes, which are well hidden. Normally, chucks are out fairly early in warm weather. They feed on clover and grasses nearby, then retire for a few hours' snooze.

It is frequently late afternoon before he emerges again to resume his feeding. Their dens are almost invariably located on well-drained side-hills in loamy soils, often with an unrestricted view in all directions—a tribute to their survival instincts. If the chuck's den is located in a wooded, shaded area, one can expect to see him at almost any daylight hour.

Stalking

Stalking a groundhog is excellent practice for the bow hunter, as the chuck is every bit as wary and alert as the adult whitetail. When they catch your eye or suspect your presence, they will outstare you every time, especially if they catch you at half-draw.

The chuck has keen eyesight and excellent hearing. Awkward and slow-moving though they may appear, their short legs can propel their squat, fat bodies unbelievably fast when occasion demands. Sometimes a shrill whistle can cause him to sit up and present a better target.

Chuck hunting with a bow can make the hunter more relaxed when he goes bow hunting for deer. A few summer sessions will do much to forestall that tense feeling that most of us experience when confronted with a whitetail at close range.

In chuck hunting, locate the den first. Binoculars come in handy for locating the holes and noting the terrain, the cover available, and the best approach route. When I locate a burrow that appears fresh, I mark the

location with a small strip of white cloth tied to a nearby bush or limb. If undecided whether the burrow has tenants, place a handful of twigs or weeds carefully over each entrance, checking back later to see if they've been removed.

Locate all of the dens you can find in the area where you plan to hunt, so if one chuck is missed or fails to show, you can go on to the next prospect. This exploratory work is best done at midday when groundhogs are underground. If the chuck spooks before you get within shooting range, circle quickly to a spot about 10 or 15 yards to the rear of the entrance as quietly as possible, taking advantage of the available cover. Avoid making excessive ground vibrations when running or walking near the entrance holes.

If you shoot and miss and can take cover before being spotted, you may get another shot. Even if he goes underground, the chances are he will reappear within 15 minutes if you remain quiet and motionless.

Cleaning and Cooking

A woodchuck shot with an arrow isn't difficult to skin and clean. Suspend by one hind leg and with a sharp thin-bladed knife remove the hide as you would a deer's. At the same time, remove the fat and, particularly, the brownish substance high on the front forelegs and in the small of the back. We skin and clean our chucks as soon as possible after shooting, having learned that this results in better tasting meat. We have also found it advisable to carry an ice cooler in the car, in which to place



THREE OF Mrs. Johnston's five arrows would have been deadly, had this paper woodchuck been a real one.

the dressed chucks. Not a single one of our chucks was ever wasted; all were consumed by someone.

For cooking, our favorite recipe calls for disjoints the dressed carcass into serving pieces, placing in a kettle of water and bringing to a vigorous boil. Add a pinch of baking soda, then empty out the boiling water and replenish with hot water.

Boil until meat is tender, drain and dip in egg and then flour, season well with salt, pepper and garlic salt and fry until well browned in a heavy frying pan. We substituted some instant potato mix for the flour on one occasion and were well pleased with the tasty results.

Super-See-er

Hawks are equipped with eyes that have been called the most highly developed organs of vision in the world. They can see at least eight times as well as the most "hawk-eyed" human.



One Wonderful Rainy Evening

By Paul Try

THE SKY WAS a murky gray, and the clouds hung low and ominous. It had been raining intermittently all day. Now, as darkness descended early, it settled down to a steady downpour. My wife Mary and I had promised to accompany her brother to Montandon, there to visit their sister on the anniversary of her birthday. The chores were all finished. I had put on my "go-away" clothes and was sitting rather dejectedly in the east room of our farmhouse. The ball games were all rained out; it was too early for good radio or TV. Clearly this was the kind of evening when nothing interesting could possibly happen—a drab, dreary twilight. Even the weather had gotten under my skin, for it seemed as if the sun would never shine again.

Then, by mere chance, I looked out the window and saw something that began a series of events and incidents which made that evening one that I shall remember a long, long time. It began prosaically enough, but each new happening added to the pleasure, leading eventually to what was, for me at least, a most satisfying climax.

The first thing I observed was a flock of vari-colored, ordinary pigeons hunting their supper in the rain. Unlike myself, however, they didn't seem to mind the gloom, but went about their business with joyous efficiency. Presently a rather sizable group of long-tailed blackbirds swooped in to join the pigeons, adding a note of contrast to the whole picture. A bit later my eyes picked up a lone dove; then a killdeer, his long legs flashing, moved into view. Another pigeon, this one white as new-fallen snow—what an idea in late spring!—braked to a perfect landing, while just outside my window several goldfinches fed hap-

pily on the dandelions. The male birds were brilliant yellow in the gathering darkness—like figurines of gold in an emerald setting.

A wandering cardinal skimmed low over the ground. He must have had an engagement elsewhere, for he didn't stop. Then the killdeer shot up into the rainy evening, and even inside the house I could hear his shrill but happy cry. My gaze followed him upward and caught the odd, fluttering flight of several chimney swifts. I couldn't hear their conversation, but I knew they were chattering away as they flew their constant circles in search of insects.

Even as I watched, a commotion in the walnut tree about twenty yards away from the house caught my attention. First, I heard their strident chatter. Then I saw a couple of red squirrels clowning up and down the tree and out across the lawn. Jaws chattering, tails twitching they pretended to run over a robin and—of all things, a flicker—both tugging at night crawlers. Then leaping onto my woodpile both squirrels once more raced to the top of the tree.

Rabbits in Potato Patch

Suddenly a rabbit dashed out of the brush and raced across my potato patch, followed by a second, then a third. For a moment it seemed they were playing a game of tag, like a couple of puppies at play. Each rabbit veered sharply away from its original path to run his own swift circle, and then back to their game. Almost at the same time a couple of ringnecks came tearing past the house in high gear. For them it definitely wasn't a game. It looked as if the first bird was running for his life; ringneck number two had mayhem in mind. I never

found out how their problem ended, for they were soon out of view.

Even as the ringnecks were passing by I was aware of the happy, flute-like melody of oriole song coming from the top of the walnut. After careful searching I saw the female, drab but beautiful. Then a bit above her a flame of bright orange and black hopped into view. For a brief moment the larger-bodied male "gold robin," as my Pennsylvania German ancestors always called it, remained in plain sight, a glorious addition to the evening's pleasure.

Dive-Bombing Blackbirds

Next I was aware that several long-tailed blackbirds were dive-bombing a crow who shouted harshly in disgust but flew away. I stood up, rested my elbows on the windowsill so I could get a better view of the outside. Almost under my nose, in the weeds of last year's potato patch, a woodchuck stood motionless but alert. For a moment I thought the "little old man" had noticed my white shirt; so I tried to be as motionless as the chuck. He seemed satisfied, for presently he dropped down and resumed his supper, pausing every now and then to rise and scan the surroundings. Suddenly he too hurried out of sight around the corner of the house.

I rushed out into the kitchen where a north window afforded a clear view of where the chuck should be. He must have been hidden in the weeds for I couldn't locate him. Instead, walking along the rain-soaked corn rows of my meadow was a beautiful mallard drake. Often I had seen the pair flying along my meadow brook, but this was the first time I had seen the drake so close to the house. I decided that his good wife must be nesting somewhere nearby, and that he was out for an evening stroll.

I watched the drake move his slow way through the mud until two white flashes across the field caught my eye. The redheaded woodpeckers that live

in my neighbor's old sugar maple were also out enjoying the rainy evening. Bird lovers claim that these birds are rather common in Pennsylvania, but this was the first pair I had seen in our locality for many years. Close up they are truly beautiful. Their white bellies and rumps contrasted vividly with jet-black wings and tail, while bright crimson heads and necks make their presence even more colorful.

The redheaded woodpeckers took refuge in their nesting tree; I hurried back to the east room. The woodchuck had now returned to the weeds in my potato patch and had been joined by another much larger and grayer one. As I came to the window they were so engrossed in each other that they didn't notice me at all. Slowly they moved together and touched noses. Suddenly, without warning, the small brown chuck bit the big gray one in his neck. I heard him squeal but he made no effort to fight back. In fact, he moved away and started to feed on the lush weeds.

My amazement at what was apparently a family quarrel was only momentary. Movement out by my woodpile attracted my attention. This time it wasn't clowning by the red squirrels. I had known for some time that the smaller chuck had a den under my woodpile, but up to this moment I wasn't sure if it was a male or female. Now the problem was solved. By the edge of the woodpile, in plain sight, feeding on my lawn, were six of the cutest little woodchucks I have ever seen.

Their movements were most fascinating. How long I stood there at the window watching them I don't know. When my wife informed me that her brother Roy was waiting to go, I was loath to leave. What had started out to be a dreary evening had now become wonderfully pleasant. Here in the country you just don't know what to expect next. Mother Nature—and her Creator—has so many exciting and beautiful things to offer us.



PGC Photo by John Behel

SEVEN GRAY FOXES BAGGED during one September day's hunt prove that author knows whereof he speaks. Gun is a 12 gauge—his favorite bore for foxes.

Calling the Gray Fox

By Paul L. Failor

PGC Wildlife Conservation Specialist

This article is intended to provide information and guidance to those who have experienced difficulty in luring a fox to the call. Although it is often said that the purchase of an electronic caller immediately makes a "professional" out of the amateur, this is seldom entirely true. Many other factors are involved in successful fox calling.

If you are one who has failed, read this item and try again.

The Electronic Caller

NO OTHER equipment in the fox hunter's gear is even half as important as his electronic caller. The condition of the calling unit will generally determine the success of the hunt, providing all other factors are normal. The sound must be clear, sharp and free of all distortion. Distortion may be caused by a blunted needle or a worn record, but in more than 90 percent of all cases it results from low-charged batteries. Batteries must be of first quality and fully

charged. For this reason the person who owns a battery tester and uses it before each trip afield is generally the most successful caller. One dead battery can make the difference. A slow turntable can likewise be the fault of one bad battery. Time the turntable occasionally to make certain your machine is operating at the set RPM speed. Wipe the dust and dirt from the record with your fingertips or a clean cloth before setting the needle to the plate. Treat your machine at all times as you would any other fine piece of equipment.

Where to Call

Being able to recognize the gray fox habitat is extremely important and probably the greatest test of woodsmanship. Here is where you separate the newcomer from those who have hunted, trapped and called the gray fox for many years. Know there are gray foxes in the area and if you are not qualified to make such judgment, prospect the area you propose to call. Look for that small, round track of the gray fox. (Red fox tracks are larger and more oval in shape.) Examine scats. Gray foxes consume large quantities of fruit through the summer months. Their scats generally contain hair and fruit seeds or stems, while the red fox scats contain hair and insect parts. While this is not a positive criterion it is fairly accurate in most localities. All fruits from June berries in June (look for the $\frac{3}{4}$ " stem in the scat) to huckleberries in September and October are an important part of the gray fox diet. Huckleberries are unquestionably the most preferred and taken in the greatest volume.

Gray foxes prefer a much heavier type of cover than the red. In fact,

THE ELECTRONIC CALLER is the fox hunter's most important piece of equipment. It should be treated with the care that high-grade items deserve.



the roughest type of terrain suits the gray fox just fine. Look for signs of the gray fox around areas that were clear-cut ten or more years ago and are now a solid stand of young trees, brush and briars. Swamp lands, rocky river and creek banks, grapevines, honeysuckle entanglements, large brier patches, sinkholes, slab piles, broken rock ledges, dense laurel and rhododendron areas and scrub oaks are the most likely places to locate a gray fox den and certainly the best areas to call.

When to Call

Although foxes may be called at any hour of the day, the most productive time is from daybreak to midmorning and from late afternoon to dark. Call only when the winds are calm. No other factor can so adversely affect the possibility of success. While the fox is not protected by law in Pennsylvania, June is generally regarded as the "start" of the fox calling season. July is better than June and by mid or late August the half-grown youngsters are coming to the call. Young gray foxes at this time are often timid and do not come in as close as the parent animals. Watch for them to cross in front of the speaker at thirty to forty yards out. September and October are the peak of the fox calling season. The young are now full size and often difficult to distinguish from their parents. In October the entire family can be taken on a single stand. Gray foxes generally have three to five pups; however, as many as seven have been recorded. The family break-up occurs in late October or November.

Your Calling Location

From where you will call is all a part of prospecting. If gray fox evidence is found in the area, determine the spot from where you will call. Try to anticipate the direction from which the fox will come and place the speaker accordingly. Most foxes will follow the lines of least resistance in

coming to the call. They are in a hurry and prefer to travel a deer trail or an open logging road. An ideal location is at the junction of two or three logging roads or trails. Where the cover is too thick to see your game at twenty or more yards, select a site at the immediate edge of the area. If the area is large (thirty acres or more) it may be necessary to call two or three sides before realizing success.

Approach your calling location quietly. In some cases you will travel only twenty-five or fifty yards from the car. On other occasions it may be necessary to walk several hundred yards from the car. Don't slam the trunk lid or the car door, avoid loud talk and don't smoke. Any of these may spook a fox that you might have called. There are exceptions, but in general it's best to hunt the more remote areas, away from the highway noises, farmhouses and barking dogs.

Wear clothing that blends with the surroundings. Camouflage clothing is best. Even more important, restrict your movement. On level ground, stand erect with your back against a tree. (A kneeling or sitting position will greatly restrict your view.) Take advantage of any high stumps or rocks that are in the area. Be on the alert and ready to shoot.

Calling

Keep the electronic caller and speaker immediately in front of you. This will bring the foxes into closer range and will allow you to reset the needle or adjust the volume with little body movement. Rest the speaker on its side so the sound waves do not travel horizontally and strike the approaching fox. This will cause a fox to stop and sometimes retreat, depending on the amount of volume being used.

How much volume should be used is one of the most often discussed subjects in fox calling. Low volume at all times is the answer. If you have seen young foxes in the area or other evidence tells you the den is nearby, use



Photo by Leonard Lee Rue, III

THE MOST PRODUCTIVE time for calling foxes is from daybreak till mid-morning and from late afternoon to dark. Call only when the winds are calm.

even less volume—in fact, barely above a “whisper.” High volume will not increase your calling range. Even though a fox in the distance may hear the call he will not respond because he knows that it is beyond the travel range of his mate or young. The “responding range” will increase somewhat as the summer progresses, as the youngsters travel farther from the den site.

Each side of the record plays about four minutes. The first fox and sometimes both are taken within the first two minutes; however, most callers will play two full sides regardless of the results. If one fox is sighted or shot, remain on stand. Remember that foxes are a monogamous species. Where there is one there are two, and if it is late in the season there is a whole family. Don't give up quickly after getting one fox. Perhaps at that moment the other fox is hunting some distance from his home base. Here, perhaps, increased volume may start him home but higher volume should not be used until at least the third play of the record and should be followed then by normal low volume. If

the second adult fox cannot be called, return a few hours later and try again.

Family Movement

Foxes generally occupy two and sometimes three different dens during the course of raising each litter of pups. Changing food supplies is one of the reasons for moving. For this reason you may call an area during June and July without success but a family of foxes may move in in August and remain there until fall. Huckleberry patches may hold no foxes until the fruit is ripe and then several families will move in and gorge themselves for weeks on their favorite fruit. As the fruit crops come to a close and the nights start to chill the fox will consume more and more flesh. Call then in areas where rabbits and rodents are abundant.

Night Hunting

Foxes are very active at night and will respond readily to the call. When the moon is full you will find good

hunting in open farmland without using a light. Watch for foxes "coming in" to follow along the darkness of the fencerow. On cold winter nights when the ground is snow covered and food supplies are scarce, use the "squealing rabbit" record. At this time of the year red foxes are taken more frequently than grays.

Calling gray foxes at night aided by use of an artificial light is very effective during the summer and early fall months. Night hunting differs very little from daytime hunting except that a light is used. Headlights are best, especially those that are permanently mounted on a helmet or other type of hardened headgear. The beam of the light should be almost vertical (about 75 or 80 degrees) with only the subdued light covering the area in front of you and the electronic unit. With the light in this position, the caller will actually be standing in total darkness. Foxes do not hesitate to come well within gun range through the dim light but will move out

THE KIND OF RESULTS GRAY FOX HUNTERS can achieve. Bob Ent of Warren and Jim Smith of Brookville with their bag.



quickly if a ray of brighter light is cast upon them. This is another advantage of having the light on your head instead of being strapped to the underside of your shotgun barrel. Keep your light as motionless as possible. Turn slowly to view the area to your right and left. Be careful that you don't "shine" your partner.

Winter Fox Calling

Gray foxes just don't like cold weather and in the winter months they travel very little during the daylight hours. In fact, the gray fox doesn't even "lay-out" during the winter months unless the weather is moderating and the temperature is unseasonably high; however, after a long siege of sub-zero weather he will take advantage of the warm rays of the noonday sun even though the temperature is still quite low. Hunting gray foxes in the winter is difficult and usually disappointing. Even in March and April the results can be discouraging. Hunt in the spring only from about 10 a.m. to 3 p.m. on the most pleasant days.

Although red foxes are far more difficult to call during the summer months than grays, they do respond equally well during the winter months. Hand calls are often more effective in calling red foxes than the electronic caller. Simulating the squeaks and squeals of mice or rats appears to be the best call to master. On moonlight nights try calling red foxes over snow-covered ground without using a light.

Guns and Ammunition

This is always a good subject for discussion. A favorite gun, regardless of gauge, bore or other specifications, is difficult to discard and even more



Photo by Karl Maslowski

FOXES ARE ACTIVE at night and will respond readily to the call. When the moon is full you will find good hunting in open farmland without using a light.

difficult to replace. Nevertheless, the writer has often been asked the question, "What is the best gun and load for gray foxes?"

Most foxes that come to the call could be taken with a 20-gauge shotgun and low-brass 7½ shot; however, this is not the most effective gun or ammunition for fox hunting. Use a 12-gauge gun with a modified bore. This pattern has a big advantage when you are hunting in gray fox cover where you often must fire quickly. Size 6 shot in the 2¾" magnum load is best for summer foxes. For the heavier furred fall and winter foxes, the same load with size 4 shot is recommended, because of its better penetration.

In Conclusion

Remember June is the start of the "fox calling season," but they respond better in July and August and the peak of the season is September and October. Don't miss it.

Cautious

Just before the molting period, ducks and geese fly to bodies of water where they will be safe from land enemies. The reason is the fact that they molt their primary feathers all at one time and, for a short period, cannot fly.



Lookin' Back, Dogs Come to Mind. Some Stand Out Highly. Others, One Would Just as Soon Forget. I Was Fortunate, Among a Lot I Owned, to Have Had Brownie . . .

A Braggin' Dog

By Bob Latimer

I PRESUME that most people who liked to wing-shoot and were lucky enough to have been able to do a lot of it, look back and relive many of those days. It brings back a lot of memories to those of us who fit that group, days when bag limits were more generous, birds were more plentiful, and not so many people were hunting them. Naturally, dogs come to mind. Some of them stand out highly. Others, one would just as soon forget. For many years I owned and hunted pointers and setters, most of our hunting then being done for grouse and woodcock. Later, the ring-necked pheasant came into the picture. I realize now that I was indeed fortunate among a lot that I owned, to have had several "braggin' dogs." A lot of people never were able to get even one of that kind.

Though I never owned a retriever, I was fortunate enough to have hunted waterfowl over some good ones that belonged to guides and friends. Certain things come to mind about these dogs when thinking over those days, too.

One of the outstanding dogs on upland game was the first good gun dog that I had. As a youngster growing out of the rabbit-dog stage and trying to get a pointing dog to handle grouse and woodcock, was having a lot of trouble. Owned several setters that didn't work out at all. Won't say it was all their fault either. It has been said that to train a dog, one should

know more than the dog. At that stage of the game, am not at all sure that I did.

One day towards fall, I received a letter from George Spackman of Chester, Pa. I think he was an officer in the Delaware County Trust Co. there. He was a friend of the family and quite a grouse hunter, one of the finest people I ever knew. He and I and my father had hunted grouse together quite a lot. He said he was expressing me a 10-month-old setter pup, that he had hunted quail over three generations of this strain in the Pinehurst section of North Carolina, and that they were good quail dogs. This one, however, with what little work he'd had, didn't step out enough for that country and he thought this pup—called "Brownie"—might be what I wanted for grouse and woodcock. He said that, at any rate, he was mine, to make a dog out of if I could.

Big as a Veal Calf

The expressman delivered the crate to our sales stable. It was big enough to hold a veal calf and the dog about filled it up. He was a big orange-and-white setter, with a sad-looking face with eyelids that drooped. He wasn't feathered out very well. In fact, he was downright homely. Started to work him and though I didn't get too much chance to hunt woodcock, did hunt him almost every day throughout the grouse season. We had lots of grouse then, I had long legs that didn't tire and lots of friends that liked to hunt too. It showed up that Brownie had a choke-bored nose and he took to grouse like a duck to water. In fact, he was a "natural." It wasn't my han-

BOB LATIMER and Roy Egly, facing page, with Brownie and Mac after a good pheasant hunt in 1928. Brownie had some faults but was still a whale of a dog.

dling that made a grouse dog out of him, all he needed was lots of hunting. He was almost tireless. Being long-legged, he trotted a lot instead of loping. The only thing that seemed to wear out on him that fall was the end of his tail and the soles of his feet. A roll of tire-tape took care of his tail and we gave him new halfsoles a couple times with pine tar and fuller's earth. Both seemed to work okay.

Far From Showy

He was far from being showy on his points. Sometimes he just seemed to stop. *But most times the birds were there!* He also fit his pace to the way the birds acted. Days that they were wild, he seemed to stand them farther off, and when they held well he pinned them close. He was the only dog I ever hunted over that did that. He would false point once in awhile, but wouldn't hold it long and didn't do it often enough to be annoying. He was as honest as he was homely and we hunted hours at a time that I never had to speak to him. He hunted to the gun, which was what I wanted. As a retriever he was rough. In fact, if a bird fluttered when he got to it, he would promptly bob-tail it. Finally I kept him from retrieving. He would hold down the bird and I'd go to him and pick it up. To give you an idea as to the amount of birds we had then, and as to his endurance, the fall he was a year old 360 grouse were shot over him. By the end of the season, he knew more about grouse than the grouse did.

As a woodcock dog, he didn't show up so good. Some days he would work them perfectly, but on many days he would merely nose them up. You could get most of them by watching him showing game and being ready. They just didn't seem worthy enough

to him on a lot of days to bother to point them, and though he would find a bird that we had knocked down, he would make no move to mouth it. We had in later years a lot of good days with him on woodcock, but you never knew if it would be a day that he would merely nose them up or stand them nicely. With him working close to the guns, it didn't make too much difference as I remember it. If we did our part, we generally bagged enough.

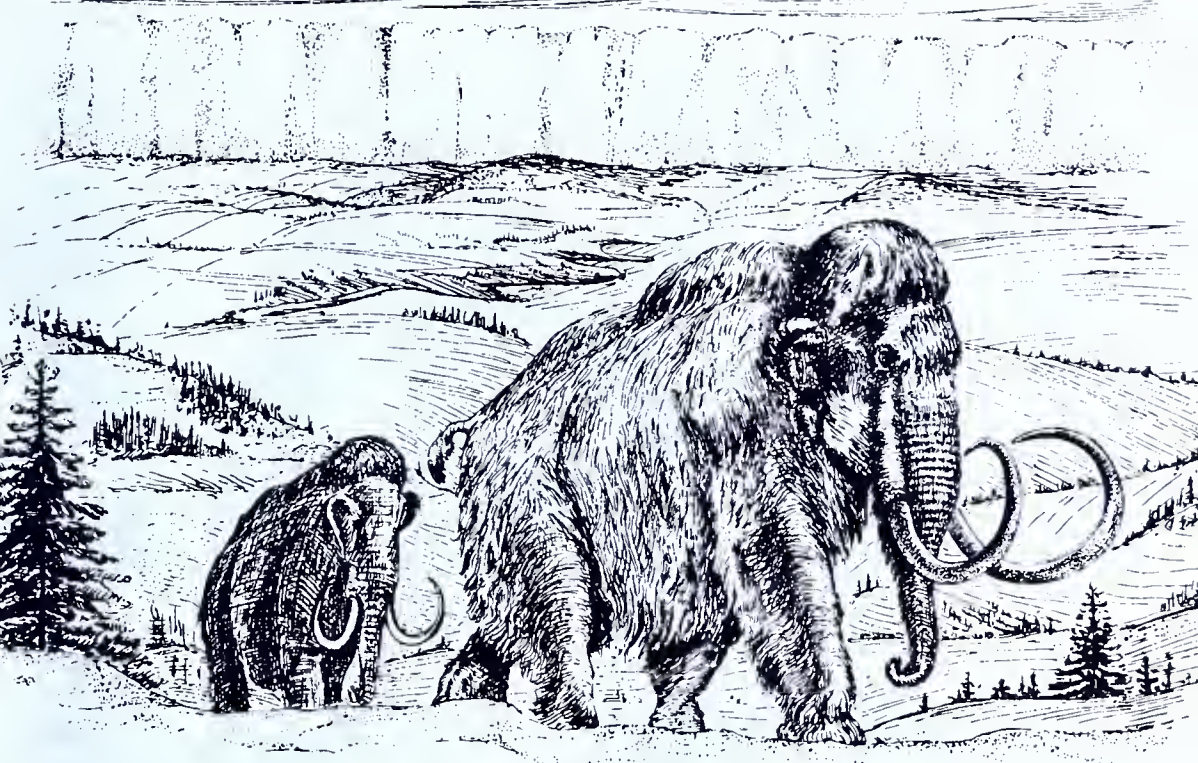
Later, when ring-necked pheasants came into the picture he worked them well. In fact, in the open he would step out and cover plenty of ground.

I was always kinda suspicious of a man that just didn't seem to have *any* faults, and think the same thing applies to dogs. Never did consider Brownie's occasional false point or roughing up a bird that fluttered as things that I couldn't get along with. He did have one fault however that was somewhat embarrassing a couple times—*he liked to kill chickens!* After wearing out several dead chickens on him, we declared a truce and at least he wouldn't grab one while I was close. Deep down in my heart I never did blame him too much for that either. Always thought that if I was a dog I'd enjoy killing chickens and running sheep.

He had many friends and I had numerous offers to sell him. Sam Dengler, a livestock dealer from Elverson, after hunting over him a couple days one time, offered me \$350 for him. That was a lot of money then and I could have used it nicely, but never could think of selling Brownie. Hunted him hard for some years, then as he got older got another dog for steady work and worked him on a part-time basis. He lived to be 14 years old and finally slept away in his kennel—a wonderful dog that made my life much richer.

Tough and Tenacious

The silk of a spider's web stretches one-fifth its length before breaking and possesses a tensile strength exceeding that of steel.



*Drawing by Albert Van Olden, from "Pennsylvania and the Ice Age,"
Courtesy of Pennsylvania Geological Survey.*

The Ages Underfoot

By Eugene R. Slatick

PENNSYLVANIA is an old place in more ways than one. Historically, it is several centuries old. Geologically, it is hundreds of millions of years old.

Lifeless and silent though they may be, the rocks that make up our familiar landscape contain stories of a Pennsylvania that was strikingly different from the one we know today. Geologists tell us that in the past the area was, literally, a different world.

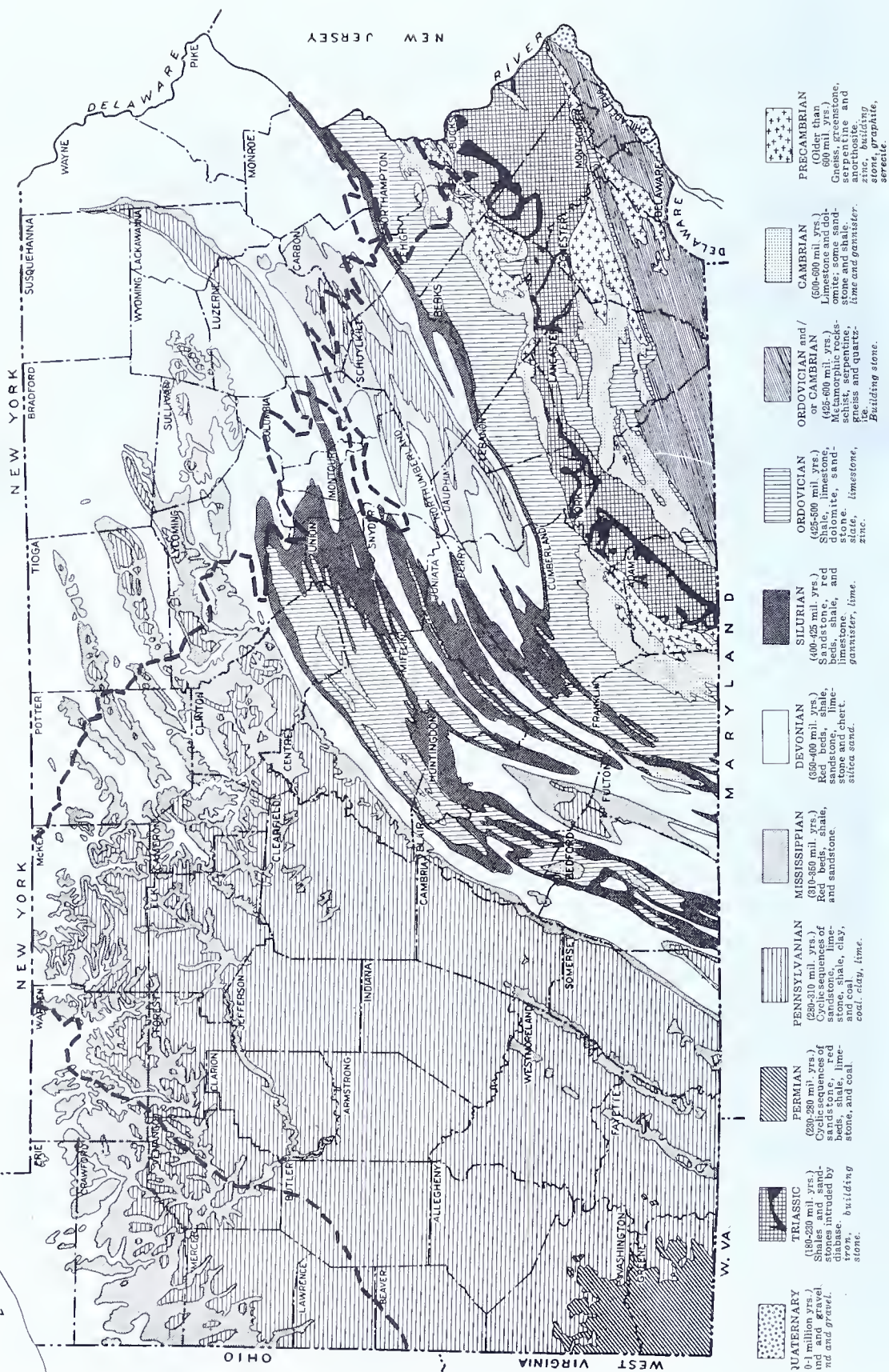
Suppose you could visit the area in the very distant past—what would you find?

About 400 to 600 million years ago (before that the stories are very sketchy) you would have found most of the state covered by the sea. You might have walked along the shore of an old land mass, called Appalachia, that extended into the southeastern

part of the state. The only animals living then were such "lower" forms as worms, shellfish, and fish. Invasions by the sea occurred many times in the state's geologic history. Some of the ripple marks formed during those times were hardened and preserved in rock. Rocks containing ripple marks have been found in several parts of the state.

Moving up in time to about 300 million years ago, you would have seen most of the area covered by the vast swamps that were later changed into today's coal deposits. The plants in the coal swamps were unusual. There were treelike ferns more than 30 feet tall, horsetail rushes two feet thick and 40 feet high, and club mosses and ground pines 100 feet high. The conifers had leaves several inches wide and up to three feet long

LAKE ERIE



instead of the small "needles" they have today. If you had looked for birds you would have been disappointed, for they had not yet appeared on earth. The air belonged to the insects. Some were spectacular—cockroaches four inches long, dragonflies with 30-inch wings. Amphibians dominated the land, although reptiles became more common as time passed.

During that period of time, called the Pennsylvania Period, there were many advances and retreats of shallow seas. Swamps formed when the sea retreated, only to be covered when it advanced. There were series of swamps, which is why today we have series of coal beds, one overlying another.

Eons Bring Changes

Traveling toward the present, to about 230 million years ago, you would have found the area quite different by comparison. A part of the state had buckled, pushing the rocks skyward. About 200 miles of rock strata were crumpled into a narrow belt to form the Appalachian Mountains. At first, they might have been as high as today's Rockies. The coal swamps, long since dried and buried under layers of rock, were changed into anthracite where the folding was strongest. In the western part of the state the folding was gentler and bituminous coal was formed.

Some geologists believe that during that general period of time North and South America were much closer to Africa and Europe, and that the continents have since drifted apart. If so, there was no Atlantic Ocean, and Pennsylvania would have been a close neighbor to northwest Africa.

About 200 million years ago a belt of land in the southeastern part of the state slowly subsided, forming a trough that gradually was filled with thousands of feet of sediments. Then molten lava worked its way to the surface of that lowland. It cooled to form the trap rock, or diabase, that is common around Gettysburg.

About 160 million years ago you would have seen a flat Pennsylvania—a vast plain only a few scores of feet above sea level. Some 70 million years of weathering and erosion had worn down the Appalachians. All that remained of them was below the surface of the plain. The plain, with its monotonous landscape threaded by slowly meandering streams, existed for millions of years.

Then about 60 million years ago the land slowly began to rise, giving the streams the power to cut into the underlying rocks. The soft rocks were easier to wear away than the hard ones. As a result, the landscape was shaped unevenly; the soft rocks were carved out into valleys and lowlands, whereas the hard rocks were left to form hills and ridges. The roots of the Appalachians were etched out of the plain more boldly than the surrounding region, forming the long sinew of folded rocks that make up today's Appalachians. Large streams, like the Susquehanna and Delaware Rivers, were able to maintain their courses and cut across ridges of hard rock; they formed the watergaps of today. Some streams cut across ridges for awhile, but then abandoned their courses for easier routes; they formed the windgaps. In general, the landscape of today began to emerge back then. Since that time the land has risen several hundred feet.

Look to the Mountains

The vast, old plain that existed millions of years ago hasn't been completely erased from today's landscape. You can find it on the mountaintops. The next time you are on top of a high mountain look at the nearby mountains and you'll see that they commonly are flat-topped and about equal height. The flat surface you see was once the surface of the old plain. Several other old plains of lesser extent can be traced in parts of the state. They formed because the land didn't rise steadily; whenever it

stopped, the streams started to erode the land, forming broad terraces.

The most recent geological event in the state's history was the Ice Age. It began almost a million years ago and ended about 10,000 years ago. During the last half of that period you would have found parts of the north covered by a thick sheet of ice that came down from Canada. When the ice melted it left deposits of sand, gravel and soil that had been picked up farther north. Much of the topography of the northern counties was shaped during the Ice Age.

Really Big Game

And what could you have hunted in the past? Less than a million years ago you could have tried your luck hunting woolly mammoths, saber-toothed tigers, peccaries, tapirs, hyenas, and giant bears. Bones of many of the state's extinct animals have been found in caves. One of the biggest finds was in the Port Kennedy Cave (now destroyed) in Montgomery County.

About 180 million years ago there was some really big game—dinosaurs. Proof that they were here is imbedded in rock. Ages ago dinosaurs walked across ancient mud flats that later hardened into rock, preserving the tracks. Dinosaur tracks have been found in several places in the southeast (for example, near York Springs, Adams County, and Yocumtown, York County).

The state's rocks can't tell us the story of our familiar game animals because the fossil record is incomplete. But the story is clear elsewhere. Scientists tell us that deer have been on earth for about 10 million years, and that deer and giraffe evolved from a common ancestor that lived about 25 million years ago. Several years ago a 1150-year-old deer antler was found in Pymatuning Creek (see GAME NEWS, February, 1963).

Bears, raccoons, and wolves also have a common relative that lived

about 25 million years ago. Squirrels, beavers, and porcupines are related through a common ancestor that lived about 65 million years ago. Some of the beavers that roamed in North America during the Ice Age were about seven feet long.

The first birds appeared on earth about 160 million years ago. Strangely enough, they descended from reptiles. Their feathers really are a type of reptilian scale; they also have other similarities. The birds of today began to appear about 65 million years ago.

And as for man, the hunter—well, he is a newcomer. He appeared about a million years ago. Indians lived in Pennsylvania about 18,000 years ago. Judging by the bones found at various sites, the favorite quarry of the early Indians was the woolly mammoth.

So, the seemingly placid landscape of Pennsylvania belies its varied past. Yet even now the landscape is changing very slowly. Each rain wears it down a little more, each stream continuously shapes it. Man is another great sculptor of the land, but he doesn't do his work so subtly.

As an outdoorsman, you will find that knowing something about Pennsylvania's geology—its landscape, geologic past, rocks, and minerals—will add to your appreciation of the outdoors. The ages underfoot are worth a second look.

FOR FURTHER READING

Pennsylvania Geological Survey Educational Series: No. 1, *Common Rocks and Minerals of Pennsylvania*, by Davis M. Lapham and Alan R. Geyer; No. 2, *Common Fossils of Pennsylvania*, by Donald M. Hoskins; No. 4, *Pennsylvania Geology Summarized*, by Bradford Willard; No. 6, *Pennsylvania and the Ice Age*, by Vincent C. Shepps; No. 7, *Coal in Pennsylvania*, by William E. Edmunds and Edwin F. Koppe. (Free, from Pennsylvania Geological Survey, Department of Internal Affairs, Harrisburg, Pa. 17120. A free catalog of publications about Pennsylvania geology is also available.)

Pennsylvania Geological Survey General Geology Reports: G33, *Mineral Collecting in Pennsylvania*, by Davis M. Lapham and Alan R. Geyer; G40, *Fossil Collecting in Pennsylvania*, by Donald M. Hoskins.



The Hunter's Gait

By Ransom A. Blakeley

SUDDENLY, the fat gray squirrel I had been watching stopped. His forepaws clutched the hickory nut he had been chewing as he pricked up his ears and listened. Then *chirr!* he called in warning, grabbed the nut in his teeth and made his way deliberately but quickly down the limb and into a knothole in the old shagbark hickory. Within moments three other squirrels loped through the dead leaves to their own den trees.

Then I heard the noise which had sent the foraging squirrels to their holes. Relentless, pounding footsteps echoed up the narrow valley, punctuated by the snapping and cracking of twigs. As the squirrel hunter crashed into view, I could see he carried an expensive gun and was comfortably dressed. Yet he had a tired, dejected look on his face, and a pancake-flat

game pouch. This hunter had good equipment. He had come to the right place. But he had used the wrong gait.

If you've ever engaged in that most educational pastime of watching people pass on a busy sidewalk, you've undoubtedly marveled at the many ways in which men (and women, too) move themselves about. For example, the typical male city pedestrian's main interest is transporting himself from where he is to where he wants to be. The scenery along the way is of little concern. He's seen the same drab shop front and jumble of signs so often he is sick of them. He's in a hurry.

That hurried attitude is revealed in his tense posture and hurried gait. At each step the leg is thrown forward quickly and locked straight at the knee. Then the full weight of the body is thrown forward, forcing the heel

and then the ball and toes into quick, hard contact with the pavement. *Click-slap—Click-slap—Click-slap*. The pavement pounding process is repeated in noisy succession.

All the time the hips remain rigidly level, causing the foot to be “planted” or thrown down at nearly the same



THE HUNTER AVOIDS the hurried, earth-shaking gait of the city pedestrian, acquires a relaxed, quiet, easy stride which allows him to cover a lot of ground without great effort.

elevation with each step. If you don't believe this, just watch how many people trip over a slightly-heaved sidewalk slab. The average city pedestrian marches down the street with the repetitive precision of a mechanical robot.

Undoubtedly the pavement pounder's gait satisfies his desire to cover distance quickly and in a socially acceptable manner. But the hunter who carries this hurried, earth-shaking gait to the countryside will find little game. Nor will he enjoy the scenery which nature has provided. He will only find himself rushing headlong into woodchuck holes and hidden ditches, or tripping over sticks and grapevines. The fast, even stride of the sidewalk pacer is as out of place on the uneven

terrain of field and woodland as a mini-skirt on a penguin.

Experienced hunters, hikers, forsters, farmers, lumberjacks — indeed all who must frequently cover rough terrain on foot — acquire a relaxed, quiet, easy stride which allows them to put a lot of ground behind them in an hour's time. Instead of trying to maintain rigidly level hips, the experienced field roamer relaxes so his hips can pivot up and down, letting his feet meet gently with the landscape. As the foot is put down, the knee remains slightly flexed to cushion the step and accommodate to the uneven ground. Only when the firmness and sureness of his footing has been tested by gradually increasing the weight applied, is the full body weight transferred to that foot. A twig which might snap or roll, or a slight hump or depression can be felt and compensated for without loss of balance.

Tread Softly

Placing the foot slowly also decreases the noise of leaves being compressed or twigs and dried grass being broken. The result is a subtle *cr-u-nch—cr-u-nch—cr-u-nch*, not alarmingly different from the sound a browsing deer makes while ambling along.

A hunter in good hunting territory has no need for speed. Thorough hunting should be slow and relaxing, with numerous pauses to search every thicket, brush patch and hedgerow. Or you may just pause to soak in the beauty of gently rolling hills and frost-painted leaves under autumn's bright blue sky. Such pauses also give time to reflect upon thoughts as deep as the meaning of life, or as immediate as how to approach the next thicket for the best shot. This is as it should be, for you will find not only has your pleasure been increased by these momentary pauses, but also the weight of your game bag.

The hunter who walks softly and stops occasionally doubles his chance of spotting game. He may walk up on

feeding, sunning or sleeping animals and be able to stalk them without their knowing of his presence. If game spots the hunter first and "freezes" in place, the hunter's pause may cause it to become nervous and break for better cover.

Several times I've seen deer watch a hunter crashing through the woods within a few yards of them. When the hunter had passed, the deer walked quietly away. Rabbits are masters of the art of "freezing" so the hurrying hunter won't see them. Recently while hiking through a brushy area, I paused for a moment to look around. After a minute I realized, much to my surprise, that to my left crouched a little cottontail. He was so close I could have touched him with my toe. We looked at each other for perhaps another 30 seconds before the bunny remembered important business elsewhere.

Pheasants and partridge will pull the same stunt. They'll sit tight as long as you're on the move. But stop for a moment and they'll begin to fear the

worst. Let the tension build for a minute or so. If nothing happens, take one quick step and be ready to shoot. If game is there, it'll come boiling out.

A slow pace with numerous stops is also easier on your heart. Even if you aren't worried about a heart attack, a pounding pump and a heaving chest can cause even a fairly heavy gun to go through some strange and wondrous gyrations. A slow, relaxed wait with frequent rests keeps pulse and breathing rates within controllable limits, so when game does appear you have a better chance of aiming truly.

Practice the hunter's gait in a park, a vacant lot or on any somewhat rough ground. Remember — *relax!* Let the hips pivot freely and keep the knees slightly flexed. Go very slowly at first. Stop every 15 or 20 paces and take a good look around.

Next time you go afield, use the hunter's gait. You'll be less apt to ruin that long-planned trip with a sprained back, twisted ankle or broken leg. Moreover, you'll see more game, hit it more surely and have a lot more fun.

Book Review . . .

Elusive Horizons

This is the story—the true story—of a bomber pilot, his crew, and the patched-up B-24 Liberator they flew to war—and from whose flaming hulk they parachuted on April 29, 1944, after bombing Berlin. Written from notes made immediately after each mission, this factual account has an intensity that makes a quarter-century-old war as immediate as today's headlines. All the details are here—the flak, the fighter planes, the burning high-test gasoline, the mechanical failures. It kept even this ex-GI rifleman turning pages until it was read at one sitting. Normally, such books are not reviewed in *GAME NEWS*, but we have special reason for mentioning this one. The bomber pilot-author is Keith C. Schuyler, our longtime archery columnist, and we thought this glimpse into his background might fascinate and impress you as much as it did us. In his preface, Keith wrote: "I have tried to speak for the other unheroes so you might know some of what happened behind the headlines." Read *Elusive Horizons* and you'll know too. And maybe you'll spend a moment in quiet gratitude for all the unheroes such as these, who made life as we know it possible. (*Elusive Horizons*, by Keith C. Schuyler, A. S. Barnes and Co., Cranbury, N. J. 08512, 1969. 176 pp., \$5.95.)



nyenka



HAWKS *across* *Pennsylvania*

By Ron Jenkins

Broad-Winged Hawk

(*Buteo platypterus*)

DRESSED IN ADULT plumage, broad-winged hawks might be mistaken for a cooper's or red-shouldered hawk; but they lack the aggressiveness of either of these two cousins around their nest site.

Adult broad-wings are blue-gray or brown-gray above with reddish-brown and white-barred markings below. That is as far as the similarity goes to a cooper's. Broad-winged hawks are rather shy woodland birds about 14 to 17 inches to the tip of their white-banded tails. They are comparatively slow hawks, and feed on prey which does not require a lot of dash and speed for capture — mice, reptiles, toads, caterpillars, etc.

All winged predators are quite fast and quick when the occasion demands, and it is only by comparison with the more rapid flying birds that we class the broad-wing as "slow."

Chunky builds make immature broad-wings resemble a small edition of a red-tailed hawk. However, their habits are more secretive and they are not easily observed until seen soaring.

Nesting is usually done at the edge of heavy woods, and then close to a stream or swampy area. The nest might be a bulky structure, but sloppily constructed in the fork of a large tree. The nest might be as low as 20 feet from the ground and have fresh sprigs from the nest tree and bits of down lining the cup.

An average clutch of eggs is three; they hatch in about four weeks. The young hawks are feathered and flying in another 30 days. In one nest we observed, three birds were successfully raised, the last one leaving the nest on July 4.

All the while this nest was being observed—including climbing the nest tree to photograph the young — the parent birds did little more than perch in an adjoining tree calling constantly with a rather plaintive whistling sound. These broad-wings seemed almost gentle and tame compared to some noisy red-shouldered hawks or a nervous cooper's.

Broad-wings are particularly good at soaring and playful diving from great heights. During fall migration, broad-wings are seen in large numbers, some flocks numbering in the thousands. Their temperament must be recognized by more aggressive hawks, for I have seen sharp-shinned hawks actually fly rings around broad-wings, and strike from all directions, apparently for the fun of annoying their larger relatives. I doubt that the broad-wings took much pleasure in the jest.

Broad-winged hawks are beneficial to us all. Give them a jaunty wave as they fly by. You may be rewarded next spring by having a family set up housekeeping in your favorite patch of woods.



1962 clear cutting, left; right, same area in 1967.

Brady Lake Browse and Timber Study

(The First Five Years)

WHAT IS the best way to manage an immature even-aged stand of trees for the production of browse and timber? The answers are coming from a study initiated by the Pennsylvania Game Commission and the U. S. Forest Service in 1960. At that time a 40-year-old stand of northern hardwoods was subjected to various intensities of cutting. An article in the November 1963 *GAME NEWS* described the project and showed the progress to that date. The following is an account of findings for the first five years of the study. Photos in the left-hand column of each page were taken in 1962, those in the right-hand columns in 1967.

Average annual production of browse per acre amounted to: 48 lbs., clear cut; 34 lbs., heavy cut; 48 lbs., medium cut; 24 lbs., moderate cut; 17 lbs., light cut; and two pounds, no cut. Utilization was not related to the intensity of the cut. Approximately 50 percent of the browse was utilized in each treatment on the average, and utilization decreased from 70 per cent to 35 percent over the five-year period. Highest to lowest browsing preferences were as follows: red maple, sugar maple, black cherry, white ash, aspen, and beech. Above data refers only to the commercial tree species listed.

Of considerable interest and importance was the species composition of the "regrowth" resulting from the various intensities of cutting. Beech, for example, responded best to lighter cuts, cherry to the heavier cuts.

On the basis of the information acquired from this study to date, the following practices are recommended for this particular forest type, site, size and age for maximum benefit to game and timber: At stand age 40 to 50 years, fell the smaller and poor quality trees—a moderate cutting. At about age 70 to 80 years, make a light small-sawlog cutting. At age 100 to 120, or about 10 years past maturity, the stand should be clear cut.

By Steve Liscinsky
PGC Wildlife Biologist



1962 heavy cutting, left; right, same area in 1967.



1962 medium cutting, left; right, same area in 1967.

1962 light cutting, left; right, same area in 1967.





FIELD NOTES



Fine Cooperation

SOMERSET COUNTY—The Rex Critchfield American Legion Post at Ursian has chosen an unusual but very worthwhile project for the year. Each student from the Turkeyfoot and Kingwood area school district who has completed the Game Commission hunter safety course will be presented the hunter safety patch as a gift from the Legion Post. To date, over 140 students have received this award from Bob Harned, Post Adjutant.—District Game Protector D. C. Snyder, Meyersdale.



Cold? Who's Cold?

TIOGA COUNTY—While having a beaver tagged this past season, a trapper told me that he had caught a snapping turtle in one of his traps. The temperature that February morning was 14 degrees above zero. It seems to me that Mr. Turtle was rushing spring just a bit.—District Game Protector F. A. Bernstein, Knoxville.

Use Everything

POTTER COUNTY—The town of Galeton built a temporary dam to keep Pine Creek's water away from their permanent dam site, now under construction. Numerous species of waterfowl are already taking advantage of the body of water as a resting place on their journey northward.—District Game Protector D. W. Jenkins, Galeton.

Maybe We're Psychic

FRANKLIN COUNTY—Several days after the April GAME NEWS came out, three beautiful whistling swans appeared on the Mercersburg Sportsmen Association's lake. Could this have been a coincidence, since the cover of the GAME NEWS pictured three whistling swans in flight?—District Game Protector R. E. Schmuck, Greencastle.

Monicker No. 787

MIFFLIN COUNTY—While helping fight a forest fire this month, I had climbed into a pair of green coveralls issued by the Game Commission so that I wouldn't ruin my uniform. One of the firefighters working nearby asked me where I had left my parachute. I asked what he meant and he stated that he thought I was a "smoke jumper." I quickly informed him that I was too old to come crashing down through treetops and then do much work fighting fires. I also suggested that he shouldn't mention this method of fighting fires to the Game Commission.—District Game Protector J. D. Moyle, McVeytown.

Scout Training Forgotten

FRANKLIN COUNTY — Recently, while driving along Route 233 just south of Pine Grove Furnace, two extremely large wild turkey gobblers crossed the road in front of my car. I thought this would make a good picture, so I stopped and attempted to get my camera from the back seat of the car. These new state vehicles, having the safety headrests, make it a little difficult to reach anything in the rear, so I had to get out and use the rear door. I think everyone knows what happened. As I got out of the car, those birds took off for parts unknown before I had a chance to grab the rear door handle.—Land Manager D. L. Stitt, Chambersburg.

Busy Place

CUMBERLAND COUNTY—While on patrol at Possum Lake I noticed many species of waterfowl using the lake at one time. These included whistling swans, Canada geese, ring-necked ducks, scaup, baldpates, mallards, hooded mergansers and seagulls. I was fortunate in watching two hooded merganser drakes during their courtship rites.—District Game Protector E. F. Utech, Carlisle.

Smart Roosters

MONTGOMERY COUNTY — The snows are gone and springlike days are here again. It is amusing to have many sportsmen ask me when we stocked all the pheasants they are seeing in the fields as they are going to work. They are all surprised when I tell them that we did not stock any since last hunting season. It just shows how smart these pheasants are during the hunting seasons, to survive, come out of hiding and show up in the spring for brood stock.—District Game Protector W. E. Shaver, Harleysville.



Always Pay

WYOMING COUNTY — Recently, there has been quite an increase in the number of rabbits killed on the highways. The highway kill of opossums has also increased. A "free" meal can turn out to be very expensive.—Land Manager G. E. Sprankle, Mehoopany.

First Bear, Now Otter

DELAWARE COUNTY—On March 12, a lady from Prospect Park called to report a dead animal in her backyard. This type of call is not unusual in Delaware County except that the woman said she believed the animal was an otter. I investigated and, sure enough, found a full-grown female otter. The animal apparently had been struck by a car and crawled from the street into the backyard where it died. The area is several blocks from the Darby Marshes and the otter could have traveled up a small creek to Prospect Park. The otter weighed 15 lbs. 9 ozs. and was 42 inches long. It's too bad such an unusual visitor to the area became a victim of one of the many vehicles—but then, the only bear to visit Delaware County in many years was struck by a trolley.—District Game Protector R. C. Feaster, Chester.



Rugged Individualists

LYCOMING COUNTY—While another Game Protector and I were talking with a group of sportsmen participating in the day-old chick program, one gentleman approached us with a rather puzzled look upon his face. He told us he had seen a large flock of geese flying north over his house in a V pattern. When they were directly over his house, two geese suddenly left the pattern and flew away in an easterly direction. His question to us was, "Where were these two geese going?"—District Game Protector D. A. Bernhardt, Jersey Shore.

Some Learn the Hard Way

POTTER COUNTY—During January I stopped at a local business establishment with a truckload of Commission deer hides. A man standing by jokingly said, "Dick, I didn't know a person could make a living by selling deer hides." Approximately one month later I had occasion to prosecute this same individual for selling deer. Naturally I reminded him of his January comment. In contrast to his earlier statement the man remarked, "I guess there's more profit in selling the hides if you take the meat out first."—District Game Protector J. R. Curfman, Coudersport.

Fine Idea

CLEARFIELD COUNTY—Recently, while cleaning up the playroom after a make-believe school session, my wife found a list of instructions our oldest daughter (9 years), who was of course the teacher, had given to her younger counterparts. The list ended with a note, "And say a special prayer that the next three years go fast." Curious, we probed into the matter to see where we, as parents, had failed. When questioned about this, the "schoolmarm" stated she just couldn't wait until she was 12 years old, so she could take the hunter safety course and purchase her first hunting license! To help ease the pain of waiting, I think I'll let all three of the "Little Zeidlers" sit in on my next hunter safety class. Nothing like getting an early start. — District Game Protector G. J. Zeidler, Rockton.

Welcoming Committee

CAMBRIA COUNTY—The spring stocking of pheasants several weeks ago showed me that we had some carryover from last season. On two different occasions as I released pheasants from the crates, wild birds flew in among them from the surrounding cover.—District Game Protector E. N. Gallew, Ebensburg.



Livin' Is Easy—Sometimes

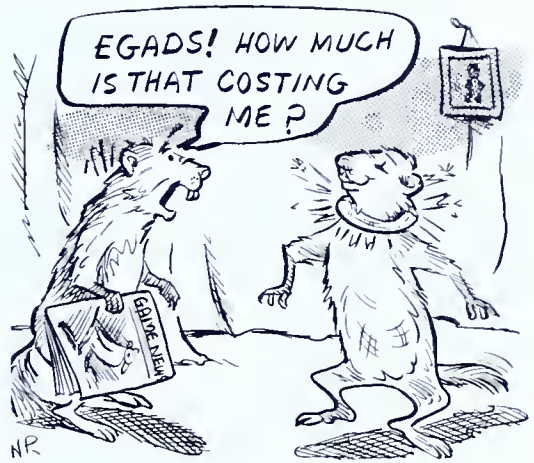
SULLIVAN COUNTY — Many sportsmen have commented to me about the unusually good condition of the deer herd after the winter months. The lack of a prolonged snow cover certainly makes life easier for wildlife. —District Game Protector D. J. Adams, Eagles Mere.

More Appreciative Than Some

MERCER COUNTY—About 11 a.m. on March 18, while on patrol in Jackson Township with DGP John Badger, we saw a young man apparently fishing in Cool Spring Creek, which was closed to fishing for preseason stocking. The stream was to be stocked with trout at 1:30 that same afternoon. We stopped to check the boy and discovered he was holding a stick, not a fishing pole. We also discovered that he was handicapped and walked with arm-brace crutches. He told us he was there to observe the stocking. We told him that he was about three hours early but he stated that after a two-mile walk and waiting this long he was not leaving now. He waited till our return at 2 p.m. I only wonder how many healthy men with new cars sat at home awaiting trout season to reap the benefits of the stocking, not caring to observe or help. — District Game Protector B. Ray, Sheakleyville.

Or Lazy, Maybe?

HUNTINGDON COUNTY — I was surprised during March to see five whistling swans alight on a small pond near my home. I thought they would stay a day or two and then resume their flight northward. However, it was over two and a half weeks before they left. Either they were very tired and needed a long rest, or they took a liking to the area and decided to stay awhile. — District Game Protector G. W. Wendt, Petersburg.



New Fashion?

CUMBERLAND COUNTY — Noss Early of Enola told of shooting a groundhog which had the upper portion of a broken Mason jar around its neck. Upon examination the glass collar seemed rather tight to Mr. Early. Evidently this woodchuck, in his younger days, stuck his head into the jar, got caught, thrashed around until the jar broke and ended up with a glass collar.—District Game Protector J. P. Filkosky, Mechanicsburg.

Dogs—Deer—Damage

SUSQUEHANNA COUNTY — Pursued by dogs, a full-grown deer recently jumped through the dining room window of a new home in Susquehanna. By the time Chief of Police Collier and Deputy Collins arrived, the path of destruction had progressed to the living room where the deer was lunging against a picture window in its efforts to escape. Rather than shoot the deer and perhaps cause further damage, Chief Collier wisely squirted Mace while Deputy Collins enveloped its head in canvas. Uninjured except for minor lacerations, the deer was carried outside where it recovered quickly, bounded away between the houses and was not seen again.—District Game Protector D. G. Day, Hallstead.

Keep Dogs Home

BUTLER COUNTY—Free-running dogs are a special but unnecessary threat to our game animals in late winter. I was called out one afternoon to destroy a three-legged buck that had been brought to bay in utter exhaustion by a small lone beagle. The deer might have mustered enough strength to make it until it had recovered from the loss of its leg, but dogs roaming the woods would not give it the opportunity.—District Game Protector N. Weston, Boyers.



How It Goes

JUNIATA COUNTY — The day started out with a search for illegal trout with a Waterways Patrolman. Then a highway-killed deer which required a 25-mile round trip. Then a farmer complaint, another contact on the Safety Zone Program, another highway kill 20 miles away, followed at suppertime by another highway kill. Then a lecture to a PTA meeting, and, as I walked in the door, three phone calls. Finally, about 11 p.m. a fourth deer to go for and dispose of. And the next morning the first person I talked to said, "Boy, you Game Protectors sure have it made at this time of the year with nothing to do."—District Game Protector R. P. Shaffer, Mifflintown.

Too Bad

ERIE COUNTY—Wesleyville Police Chief Bankoske and Patrolman Peek recently brought me a small animal for identification. One glance told me that it was a least weasel (*Mustela rixosa*). It seems that this little fellow was killed in a house in Wesleyville in mistake for a mouse. Actually, the least weasel is quite rare in Pennsylvania and is the smallest carnivore in the world. I have only seen one other in Pennsylvania. Its diet consists almost wholly of mice, insects and small birds. This little fellow being an asset to the wild kingdom, it seems a shame that when he does cross paths with the human element, his fate is almost inevitable through ignorance and misunderstanding.—District Game Protector R. L. Sutherland, Erie.

Leave It to the Kid

SNYDER COUNTY — What age criticism? The GAME NEWS had just arrived at our house. My nine-year-old son was looking through the Field Notes and he said, "You don't have any ad in the GAME NEWS this time." I believe he and my supervisor had their heads together, as Supervisor Hodge often reminds me that I don't enter anything under Special Remarks on my activity report.—Land Manager I. L. Dodd, Beavertown.

Go Where They Are and Get 'Em

CLEARFIELD COUNTY — Recently I presented the Game Commission's Triple Trophy Award to Ralph Hoover of Clearfield. Upon talking to Mr. Hoover about his hunting experiences, I learned that he had taken 21 white-tailed bucks, 11 wild turkeys and one bear in 21 years of hunting. All were bagged within a few miles of Clearfield. In what other state could a man perform such a feat?—District Game Protector C. L. Keller, Clearfield.



CONSERVATION NEWS



Gary Miller
Brockway School



Gary Miller
Derry School



Ed Wilson
Clearfield School

Wildlife Conservation Awards, 1968

THE THREE statewide winners in the FFA Wildlife Habitat Development Contest for 1968 have been announced by the Pennsylvania Game Commission. First place award, for the second year in a row, went to Gary Miller of New Alexandria, who attends the Derry School in Westmoreland County. Second place winner was Ed Wilson, Clearfield School, Clearfield County. The third place winner was, by coincidence, another young man named Gary Miller, who attends the Brockway School in Jefferson County.

Winners in the Pennsylvania Game Commission's six Divisions were: Northwest—Robert E. Gabel, Steve Bielobocky, Jr., David R. Lyle; Southwest—Larry W. Hoover, Robert Hershberger; Northcentral—Guy A. Bowersox, Paul T. Serena, Ronald Sipe; Southcentral—Guy Rosenberry, Dwight Swope, Titus Wingert; Northeast—Neil Peters, Jay Harkness, John Koch; Southeast—Jack L. Speece, Vin-

cent Greggo, Lester D. Bashore.

This competition is sponsored cooperatively by the Pennsylvania Department of Public Instruction and the Game Commission. It may be entered by any vocational agricultural student in Pennsylvania. Work plans which emphasize recommended procedures in predator control, firearms safety, land management, conservation education, marsh and stream development, etc., are set up by students. These plans must be approved by the student's Vocational Agricultural area advisor, his Vo-Ag teacher and the local District Game Protector. Completed projects are inspected by representatives of the Game Commission and the Department of Public Instruction. By comparing the area with photos taken before work started, they can judge the student's accomplishment.

Prize money of \$1000, provided by the Game Commission, was divided among the 20 winners.

Over 25,000 Game Birds Released in State



PGC Photo by J. S. Chick

DGP PAUL MILLER and deputy release wild turkeys in Blair County. In 1968, 6414 turkeys were liberated in the state. During this spring, 1900 were released.

More than 25,000 game birds were released in the state this spring under the Pennsylvania Game Commission's stocking program. Ralph E. Britt, Game Commission propagation division chief, said that 1900 wild turkeys of both sexes have been liberated.

In the ring-necked pheasant program 5710 cockbirds and 15,700 hens have been stocked, and 2300 bobwhite quail of both sexes were released during April.

For a number of years about half as many turkeys and quail had been liberated in the spring as in the fall. In the past several years the pheasant stocking program has undergone changes in an effort to provide greater recreational opportunities and returns

for sportsmen during the hunting seasons.

Pre-hunting season and in-season stocking of pheasants with higher returns to the hunter are now being emphasized.

Large-scale spring liberations of pheasants in areas with adequate winter carryover of breeding stock or in marginal range are being de-emphasized in favor of large releases of roosters prior to and during the open season. Birds being released this spring are being liberated mainly in secondary range.

Experience has shown that it is futile to release game farm breeding stock in areas that do not normally support pheasants, and it is equally unsound to release breeding stock in primary range which has an adequate winter carryover of birds. Hence, the emphasis for liberation of pheasants this spring was placed on secondary ringneck range, where it was felt they would be of most benefit.

Subscription Refunds

Occasionally GAME NEWS gets a request for a refund because of a subscriber's death. It is not possible to make such a refund; however, we are glad to transfer the remainder of the subscription to any other person designated by the family of the deceased.

Over 36,000 Bucks Bagged on Opening Day

Analysis of the 1968 buck harvest shows that 36,210 bucks were taken on the opening day. This is about 60 percent of the 1968 antlered deer harvest. Another 7746, or 13 percent, were taken on the second day. The harvest of 54,892 bucks during the first week of the season represents 91 percent of the total reported 1968 antlered deer harvest.

Waterfowl Museum Open

The Pennsylvania Game Commission's Wild Waterfowl Museum at Pymatuning Lake near Linesville, Crawford County, will be open until November 30 this year, according to Ray M. Sickles, waterfowl management agent.

Nearly 300 mounted specimens, representing about 90 species, are on display at the museum. All were collected at Pymatuning.

The waterfowl museum is located one mile south of Linesville on Legislative Route 20006. Museum hours during June, October and November are from 10 a.m. until 5 p.m. prevailing time. Hours for July, August and September are from 10 a.m. until 7 p.m.

More than one-quarter million people visit the museum each year. Large groups planning to visit should make reservations with Sickles at Linesville, R. D. 1, or by telephoning either (412) 927-2199 or (814) 682-2005.

The museum is located next to the



INTERIOR VIEW OF the Wild Waterfowl Museum at Pymatuning shows some of the mounted specimens displayed for the public's information and admiration.

Game Commission's Pymatuning Waterfowl Arca and many young geese and ducks can be seen. One of America's rare sights, nesting bald eagles, also can be seen in the area. Eagles are incubating eggs in several nests at Pymatuning. It is hoped that many people will visit the museum this year.

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Photo by Charles L. Maddox, Jr.

MEMBERS OF BOY SCOUT EXPLORER POST 184, sponsored by the Bucks County Fish and Game Association, cut browse for deer food in Lycoming County.

Days of Yore



BULL PEN HUNTING CLUB MEMBERS had a good year in 1935 with six big bucks. From left: W. J. Lindsey, Walter Glock and J. C. Bechdle of Beech Creek; Charles Mayes of Howard; Mont Glock, Mill Hall; and Way Collins of Ann Arbor, Mich. Photo by William C. Lindsay (inset), Baltimore, Md. Their club was located on the east branch of Big Run in Clinton County.

Report on 1968 Extended Antlerless Season

A GAME COMMISSION breakdown of the 1968 deer harvest shows that the one-day extension of the antlerless season was clearly beneficial to the deer herd, the range, sportsmen and the general public.

Fears expressed by some sportsmen that there would be an overharvest of antlerless deer if the season were to be extended are not substantiated by an analysis of the 1968 harvest. On the extended day of the season, Saturday, December 21, hunters reported taking 13,681 antlerless deer, or about 18 percent of the total 1968 antlerless harvest.

On the first day of the antlerless season, hunters reported taking 45,315 whitetails, or about 58 percent of the total 1968 antlerless harvest. The second day of the season produced 16,238 antlerless deer, or about 21 percent. Of course, there are several thousand hunters who report taking deer but do not indicate the date of kill.

From past experience, Game Commission personnel can predict the size of a deer harvest under varying conditions. The one-day extension was not a "shot in the dark" or a "guess" at

how many additional whitetails might be taken.

Uncontrollable variables such as weather, hunter pressure, etc., make it necessary to have a flexible management program that can be geared to meet the needs of a given area on a given date. Therefore, last summer the Commission announced the season might be extended in case of inadequate harvest.

An already depleted range would have been further damaged this winter had there been no extension of the season. Deer which came through the mild winter on wobbly legs probably would not have survived had there been an additional 13,000 whitetails competing for the same food. And had the winter been more severe, there certainly would have been greater mortality.

In addition, the harvest of 13,000 antlerless deer on the final day will mean fewer offspring to compete for available food, to damage property and to be struck by vehicles in 1969. This will produce deer in better physical condition, clearly a gain for the herd and sportsmen.

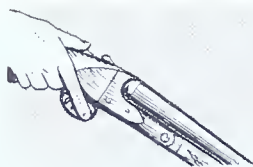
Pennsylvania Trappers Harvest 4265 Beavers

Pennsylvania trappers harvested a total of 4265 beavers during the February 9-March 9 season this year, according to a final compilation by the Game Commission. This represents an increase of about 50 percent over last year's take of 2874 flat-tails.

Despite adverse weather which produced ice thicknesses of up to 24 inches in prime beaver habitat this year, more trappers were active than in the recent past and efforts toward catching the big furbearers were more concentrated than previously.

Although Pennsylvania's prime beaver range is in the northern part of the state, the flat-tails were taken in 49 counties this year.

Two counties in the northwest and two in the northeast were the top producers in 1969. Crawford County was tops with 515 pelts, while Wayne, the leader for the past two years, was second with 359. Third was Erie with 338, while Susquehanna was fourth with 322.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



GOVERNOR RAYMOND P. SHAFER shows honorable mention award from the National Rifle Association for the Game Commission's outstanding Hunter Safety program. Present for ceremony were I&E Chief Roy Trexler; Deputy Executive Director Bob Lichtenberger; Colonel John Lee, field representative of the NRA; and John Behel, Hunter Safety coordinator. Pennsylvania's program having been adjudged the best in the nation several years ago, it is not eligible for first-place consideration until a five-year period has elapsed.

Many Schools Conducting Hunter Safety Courses

THE Pennsylvania Game Commission urges youths to take advantage of hunter safety courses being offered in many schools in the state.

Beginning September 1, 1969, no person under the age of 16 years will be able to purchase a hunting license in Pennsylvania unless he has previously held a license or presents a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.

It is anticipated that some 35,000 youths will be purchasing their first hunting license in the state next year. To help meet the demand for instruction, many schools are scheduling hunter safety courses with the cooperation of District Game Protectors and local hunter safety instructors.

Classes are also being held through sportsmen's clubs, for Scout troops, etc. With ample opportunity for enrollment, no one should have an excuse for not qualifying for a license next year.

Pennsylvania Jaycees Active in Hunter Safety and Shooter Education

By H. Thomas Brooks

Pennsylvania Jaycee Shooter Education Chairman

SINCE 1965 the Pennsylvania Jaycees have sponsored and promoted a shooter education program in conjunction with the U. S. Jaycees and Daisy-Heddon Company.

The basic reasons for this program are:

1. It teaches good gun manners and proper gun handling.
2. It teaches discipline and self-control.
3. It involves boys and girls, regardless of skills and experience, in a good clean sport.
4. It cements a good working relationship with the community.
5. It gives boys and girls a good clean competitive sport.

Since this program was started, 10,000,000 American youths throughout the United States have gained experience in sportsmanship, marksmanship and training. In Pennsylvania alone, approximately 40,000 youths have received this training. In 1968, 35 Jaycee chapters conducted this program in Pennsylvania. This year, 95 chapters throughout the Keystone State are conducting it. The average is 100 youngsters per chapter taking the course.

The basic course consists of 13 one-hour sessions; these sessions cover topics such as guns and ammunition, proper firearm handling, firearm nomenclature, proper sighting and marksmanship training, as well as proper shooting positions and range commands. This course is available to boys and girls 7 to 14 years of age.

Shooting is actually done with BB guns, making it possible to conduct

the program either indoors or outdoors. No special shooting range is necessary.

The competitive shooting portion of the program is presented in Bedford, Pa., in four age categories: 7- and 8-year-olds; 9- and 10-year-olds; 11- and 12-year-olds; and 13- and 14-year olds. It is done in this manner so that all shooters are competing against others in their own age group. At the conclusion of the thirteenth session, awards are given to the three top shooters in the various age groups. Each participant also receives a wallet-size card and certificate showing that he has successfully completed the course.

Held in Winter Months

This program is generally held in the winter months from January through March because this period does not conflict with other activities and vacations.

The expense of the program is borne by each Jaycee chapter, with no expense to the participants. The cost for the Jaycees of \$50 per chapter averages out at approximately 40¢ for each youth, based on 200 youngsters "which the Bedford Jaycees had this year."

This year the Pennsylvania Jaycees conducted a state shoot-off in Bedford. The top five shooters will represent the Pennsylvania Jaycees in the National Finals at Overland, Kans., on July 4, 5 and 6.

Instructions may be given by the local Pennsylvania Game Protector, state police, local police, Jaycee members or other interested people.

Public-spirited individuals or sportsmen's groups that are interested in conducting this program can obtain further information from their local Jaycee chapter or the State Jaycee Shooter Education Chairman.

The Jaycee Shooter Education Program should not be confused with the Game Commission's Hunter Safety Program. It is the goal of the Pennsylvania Jaycees to cooperate with the Pennsylvania Game Commission in the hunter safety program which has become mandatory for all first-time hunters under 16 years of age.

The basic hunter safety course is of four hours' duration and covers orientation, knowledge of firearms and ammunition, care and storage of firearms, proper handling of firearms, hunter responsibility, hunter-landowner relationships, safety regulations and bow handling. The instruction is supplemented by handout material, slide lectures, movies and situational demonstrations and the course is generally completed by the successful passing of an examination.

Certification Card

Upon completion of the hunter safety course, all participants will receive a hunter safety certification card which must be presented to issuing agents in order to obtain their first hunting license.

Several Jaycee chapters in Pennsylvania have already made hunter safety one of their programs. The Jaycees who are conducting these programs are qualified hunter safety instructors

1001 Students

The cooperation of our many hunter safety instructors has gone a long ways toward making this program the country's best. I'd like to call two of these instructors to the attention of our GAME NEWS readers. They are S. O. Nevill and C. C. Torp of Beaver. Between them, these two men have certified 1001 students in hunter safety programs. They used the facilities of the Beaver Valley Rifle & Pistol Club, Beaver Falls. This is an outstanding effort, and these men are to be commended. — District Game Protector Harry E. Merz, Beaver County.

and they are assisted by District Game Protectors.

The Westmont Jaycees are conducting their programs two nights each week. Shooter education is given on Tuesday nights for ages 7 through 10, and the hunter safety program is given on Thursday evenings for ages 11 through 14. The Bedford Jaycees are presenting the shooter education program to its completion and following it up with the hunter safety course for ages 11 through 14 one night a week. All Pennsylvania Jaycee chapters are encouraged to conduct these two programs in their communities. Interested persons or groups may obtain further information about this worthwhile civic responsibility from their District Game Protector, one of the six field division offices, or the Harrisburg Office of the Pennsylvania Game Commission.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.

State Hunting Accidents, 1968

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

HUNTING CASUALTIES CAUSED BY SPORTING ARMS IN PENNSYLVANIA DURING 1968

	BOW & ARROW	FATAL NO. PERCENT	NON-FATAL NO. PERCENT	TOTAL NO. PERCENT
TOTAL CASUALTIES				
Self-inflicted	12	12 48.0%	130 25.7%	142 26.8%
Inflicted by others	3	13 52.0%	375 74.3%	388 73.2%
SEASON				
Open Season	15	24 96.0%	505 100.0%	529 99.8%
Close Season	0	1 4.0%	0 0.0%	1 0.2%
AGES OF VICTIMS				
Under 12 years of age	0	0 0.0%	9 1.8%	9 1.7%
12 to 15 years of age	0	3 12.0%	69 13.7%	72 13.6%
16 to 20 years of age	4	7 28.0%	128 25.3%	135 25.5%
21 years of age and over	11	15 60.0%	298 59.0%	313 59.0%
Age not reported	0	0 0.0%	1 0.2%	1 0.2%
AGES OF PERSONS INFLECTING INJURY				
12 to 15 years of age	0	2 15.4%	37 9.9%	39 10.0%
16 to 20 years of age	1	6 46.2%	50 13.3%	56 14.4%
21 years of age and over	2	3 23.0%	177 47.2%	180 46.4%
Age not reported	0	2 15.4%	111 29.6%	113 29.2%
BIRD OR ANIMAL HUNTED				
Deer	15	11 44.0%	74 14.6%	85 16.0%
Bear	0	0 0.0%	2 0.4%	2 0.4%
Upland Small Game	0	10 40.0%	381 75.4%	391 73.8%
Woodchucks	0	2 8.0%	20 4.0%	22 4.2%
Migratory Birds	0	1 4.0%	9 1.8%	10 1.9%
Furbearers	0	1 4.0%	1 0.2%	2 0.4%
Predators	0	0 0.0%	6 1.2%	6 1.1%
Unprotected species	0	0 0.0%	12 2.4%	12 2.2%
SPORTING ARM USED				
Shotgun	0	8 32.0%	372 73.6%	380 71.8%
Rifle	0	17 68.0%	103 20.4%	120 22.6%
Pistol	0	0 0.0%	15 3.0%	15 2.8%
Bow and Arrow	15	0 0.0%	15 3.0%	15 2.8%
CASUALTY CAUSES				
Sporting Arm placed in dangerous position	5	0 0.0%	22 4.4%	22 4.1%
Accidental discharge of sporting arm in hands of hunter	0	12 48.0%	91 18.2%	103 19.4%
Ricochet or stray; shot, bullet or arrow	0	0 0.0%	95 19.0%	95 17.9%
Victim in line of fire	0	7 28.0%	230 45.0%	237 44.7%
Hunter slipped and/or fell	6	2 8.0%	27 5.4%	29 5.5%
Hunter dropped sporting arm	1	2 8.0%	11 2.2%	13 2.5%
Shot in mistake for game	2	2 4.0%	19 3.8%	21 4.0%
Sporting arm defective	1	0 0.0%	8 1.6%	8 1.5%
Using sporting arm as club	0	0 0.0%	2 0.4%	2 0.4%
Unknown	0	0 0.0%	0 0.0%	0 0.0%
WHERE CASUALTIES OCCURRED				
Fields	2	7 28.0%	129 25.3%	136 25.7%
Brush	2	3 12.0%	126 24.7%	129 24.3%
Open Woodland	3	7 28.0%	89 17.8%	96 18.1%
Dense Woodland	5	1 4.0%	119 23.8%	120 22.6%
Water	0	0 0.0%	4 0.8%	4 0.8%
Conveyance	0	2 8.0%	3 0.6%	5 0.9%
Camp	0	0 0.0%	4 0.8%	4 0.8%
Woods road or public highway	3	5 20.0%	31 6.2%	36 6.8%
WEATHER CONDITIONS				
Daylight	1	3 12.0%	72 14.4%	75 14.1%
Clear	7	12 48.0%	255 50.5%	267 50.4%
Raining	0	0 0.0%	35 7.0%	35 6.6%
Snowing	0	0 0.0%	7 1.4%	7 1.3%
Fog	3	1 4.0%	10 2.0%	11 2.1%
Cloudy	1	6 24.0%	114 22.3%	120 22.6%
Dusk	3	3 12.0%	9 1.8%	12 2.3%
Dark	0	0 0.0%	3 0.6%	3 0.6%

*Casualties by Bow & Arrow hunters are included in the Fatal, Non-Fatal and Total columns.

SUMMARY OF ALL CLASSES OF 1968 SHOOTING CASUALTIES

FATAL..... 25 - 4.7% NON-FATAL..... 505 - 95.3% TOTAL..... 530 - 100%

1968 HUNTING CASUALTIES COMPARED WITH PREVIOUS TEN-YEAR PERIOD

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	Total	10 Yr. Ave.	1968
FATAL....	27	17	27	23	16	18	17	30	15	24	214 (A)	21.4	25
NON-FATAL	453	496	525	454	435	341	412	492	471	456	4535 (B)	453.5	505

(A) Of this total 26.6% were self-inflicted and 73.4% inflicted by others.

(B) Of this total 23.8% were self-inflicted and 76.2% inflicted by others.

1968 Grouse Hunting Survey

By Stephen A. Liscinsky
PGC Wildlife Biologist

WITH FEW exceptions, grouse hunters experienced a mediocre season in 1968. As usual, some areas produced better hunting than others. The best hunting was found in the southcentral part of the state, while the poorest showed up in the Pocono Region. The data collected over the past four years indicate a slight recovery in the Poconos—a trend we hope will continue. On the other hand, flushes per hour in the northwestern part of the state have been decreasing over the past four years. All of which goes to show that the so-called cycle is not uniform throughout the Com-

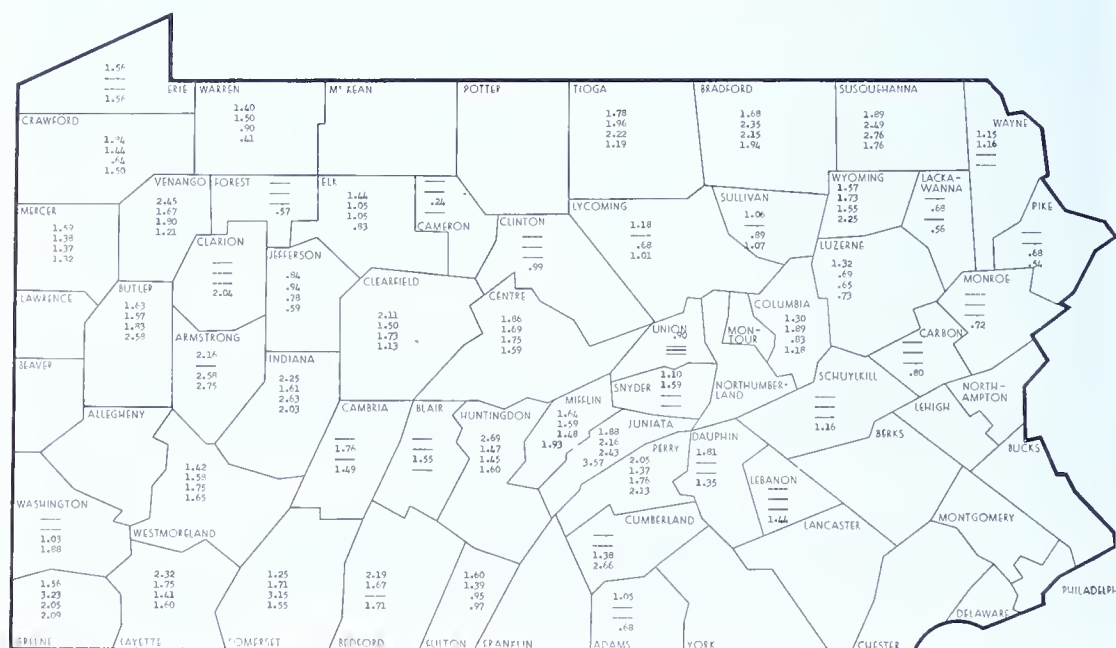
monwealth. A study of the accompanying map will give you some idea of what grouse hunting was like in various parts of the state.

Last year an appeal was made for more "cooperators" to keep records of their grouse hunting activities. The response was gratifying. We could still use more information, particularly from those who hunt the "big woods" portions of the state. A note to the author at 623 S. Frazer Street, State College, Pa., is all that is necessary to become a cooperator. Remember—the larger the picture, the more visible the scene.

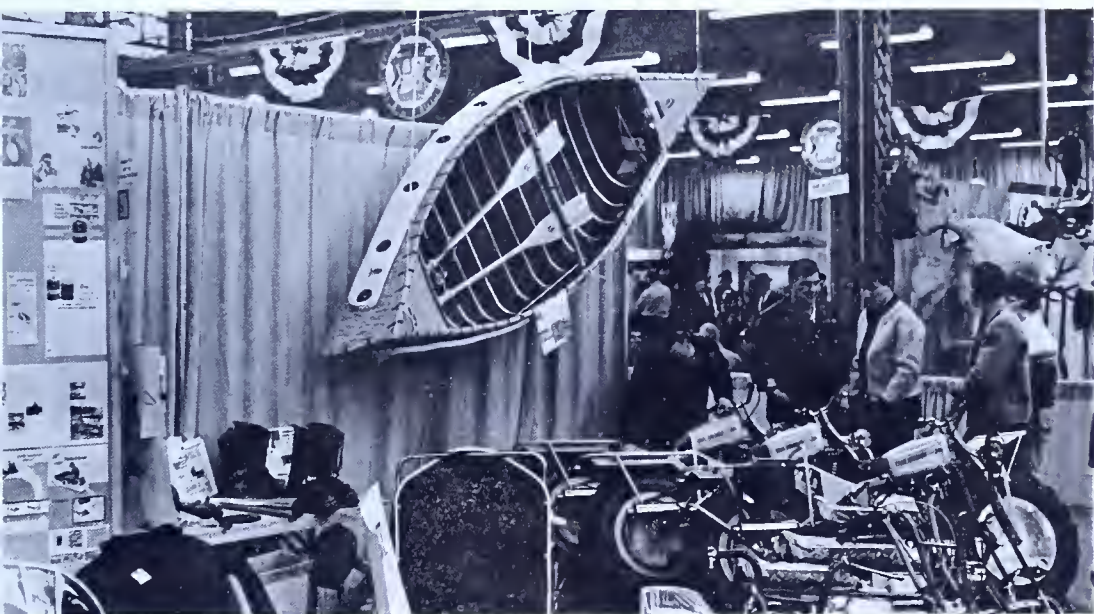
Pennsylvania Statewide Grouse Hunting Record

Cooperators	1965	1966	1967	1968
Solicited	320	246	290	298
Responding	192 (60%)	126 (51%)	126 (43%)	186 (63%)
Submitting Usable Data	176 (55%)	117 (48%)	118 (40%)	169 (57%)
Hours Hunted	8018	4856	5110	7451
Flushes Recorded	13057	7191	8470	12008
Flushes Per Hour	1.62	1.48	1.66	1.61

Grouse Flushing Record—1965-1968 Hunting Seasons*



*All That's New and Exciting in Outdoor Equipment
Can Be Seen and Examined . . .*



At the Sportsmen's Show

By Les Rountree

THE FOOTSOKE, eyeballing spectacle of a sportsmen's show has turned into really big business in the United States. The National Sporting Goods Association always comes up with the granddaddy of them all. Held this year at the Houston Astrodome, it was followed in rapid succession by nearly equal extravaganzas in New York, Cleveland, San Francisco and you name it. Pennsylvania is most certainly not forgotten, with perhaps our biggest and best being the annual Harrisburg Outdoor Show held at the Farm Show arena every February. Pittsburgh is coming on strong, too. Their show is also held in February. In addition to these, practically every city worth the name has a pocket-edition outdoor show where camping gear is displayed in profusion. Attending these shows is fun for some, tiring for others and downright necessary if you happen to be an outdoor writer.

There is a big danger, of course,

in attending, and that is that you will fall in love with a brand-new super whizzbang camper or other high-ticket item and wind up scribbling a check that overtaxes the family budget. The writer has this problem, too; in addition, he also must watch himself very carefully so he doesn't tout one item too strongly, thus making other manufacturers a bit peeved. Everybody has favorite products, of course, but you must always make an effort to be fair.

Those of you who have been reading this column will have discovered by now that I don't make any effort to make this a pure technical information column. It would be very easy to take the manufacturer's printed specification sheets and simply re-run them, but it would serve no specific purpose other than to fill space and zero in on one particular product. There are times, of course, that it is absolutely necessary to mention a specific product, but in this camping game today, it

is a very tough proposition. There are, for example, over a hundred different brand names appearing on ice chests. There are dozens of companies that manufacture pop-up trailers, pickup campers, tents and travel trailers. A new propane stove manufacturer



IT'S AT THE sportsmen's show that outdoor people have their best opportunity to see and compare new equipment, learn what's available for use in the coming months.

comes on the market each month, or so it seems. Which one is the best? I really don't know. About all a person can do, honestly, is look, compare, ask your friends and then try to select equipment best suited to your individual needs.

What's for '69?

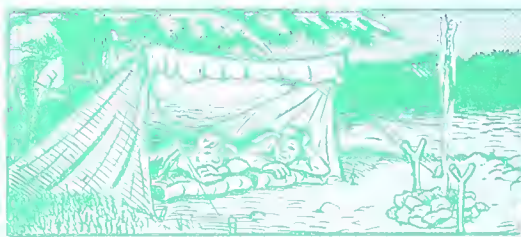
As far as design and exterior appearances are concerned, the pop-up campers have not changed a great deal. This is especially so of the "soft top" models. A number of the new crank-up hard top jobs are out this year, but they are not radically different from those available in 1968. There is more extensive use of aluminum and, if the trend continues, there won't be much canvas or fabric attached to these rigs at all. Inside pop-up campers and all other kinds of camping devices, the accouterments are becoming fancier and fancier. The

chemical toilet is available in practically every model made. It is an optional accessory, of course, but it is available.

The fanciness holds true for pickup campers, too. They're getting bigger and more luxurious and the automobile manufacturers are accommodating them well by making more attractive pickup trucks especially designed for them. Perhaps I really haven't been watching the pickup camper game as I should have, but a new gimmick has come on strong. That is the little ladder in the back leading up to a sundeck roof on some of the larger models. The next step probably will be to install an inside stairway in these same outfits!

A product that is not especially new, but one that is certainly capturing the manufacturer's imagination, as well as the buyer's, is the catalytic heater, and for sales purposes, we might as well lump in the propane reflector heater as well. These are great devices for pop-up and tent campers, since they have finally provided a way to get out of the sleeping bag and into clothing before you are goose-pimpled to death. Don't forget—any heater must be used with adequate ventilation.

Snowmobiles and trail bikes! Five years ago, 90 percent of American outdoorsmen knew absolutely nothing about these creatures. They are certainly big news today, with the snowmobile, without question, being the biggest. Here, too, it seems as if a new manufacturer appears on the scene each month, with a starry-eyed proclamation that his machine will do everything better than his competitor's. There certainly is a place in the winter camping picture for the snow





THE HARRISBURG Outdoor Show, held every February, features an outstanding display of North American big game trophies, as well as equipment.

mobile. It can carry you and your gear to a remote camping site with a minimum of trouble and confusion. There's no question about it, they sure do beat snowshoes. My biggest complaint about snowmobiles is that they are just so darned noisy. I'm waiting for the day some manufacturer comes out with a quiet one. Perhaps I'll be thought of by some as an old crock, but my feelings are pretty much the same about trail bikes. They're great for getting from one place to another over rough terrain while hauling a lot of gear, but there seems to be something morally wrong about the noise that belches forth from their tail pipes. The real connoisseurs of such machines insist that the deep-throated growl of the engine provides a major part of the thrill. I feel otherwise. Perhaps I'm just anti-noise.

Firearms and fishing tackle also make up a big part of the heart-stopping goody display at the sportsmen's show, and they are certainly a big part of the outdoor picture. As with other sporting gear, the showgoer has to really be on his toes to keep up with the vast array of new models and designs that are pouring forth from the factories today. There once was a time when a gun buff could spend a few evenings studying the Stoeger

catalog or the Gun Digest and recite by heart all of the model numbers available, calibers and other specifications of every firearm manufactured in the country. To do this today would be a full-time occupation. With fishing tackle, it's even worse. New rods and designs are coming out so fast that even the factory representatives who man the show booths are not aware of their company's latest products. I'm not knocking this. I think it's great! It certainly demonstrates that the outdoor equipment buying public is a pretty important guy and the manufacturers are doing their best to please him.

Nylon and Plastics

The use of structural nylon and plastics is moving ever deeper into the outdoor equipment field. Plastic jugs, water coolers, ice chests, buckets, camper bodies, boats, paddles, flashlights—the list keeps increasing year by year. Not too long ago, I was not very well sold on most plastic outdoor specialties. They were, for the most part, cheap, shoddy imitations of other materials and would not stand up under rough treatment or, for that matter, even normal treatment. Some of this inferior plastic is still on the market today, but the plastic industry is definitely growing up. I can't pro-



RIFLES AND SHOTGUNS are always of top interest to Pennsylvania's million-plus hunters. The various types shown here pretty well cover the field.

nounce, and won't attempt to spell, some of the super-duper trade names that are used by some of the companies for their plastics but, for the most part, the synthetics are very rugged and will last indefinitely. Inability to adapt to temperature change was the big problem for many years. I once had a plastic flashlight that melted into a blob of goo as the sun hit it through the back window of my car. Some of the newer plastics won't melt even when thrown into a campfire. Plastic products marketed by reputable manufacturers today are fine.

Lightweight Items

Lightweight boats and canoes are becoming bigger attractions at the outdoor shows since more and more campers are taking some sort of watercraft with them. Here the plastics and synthetics are making big news, too. Except for those people heavily laden with nostalgia, the wooden or canvas-covered canoe is rapidly fading. We now have canoes of plastic, Fiberglas, inflatable vinyl, and of course aluminum, which has been around for a

long time. The weight and portability of these featherweight jobs really make them practical for the over-the-road camper. One lightweight aluminum model weighs only 29½ pounds and looks like the answer to the casual family boater who wants to take his own equipment along. One gripe! No body seems to be making boat carriers for the wider pickup campers or travel buses. Maybe they are made in this country but I certainly haven't seen them at any of the recent shows.

Sportsmen's shows are held during all months in various parts of the country, but the prime time seems to be February and March. This is probably as it should be, since it gets everybody all hopped up and in the mood for the coming spring and summer. For selfish reasons, I think at least a few of the show promoters should think about putting one on just before Christmas. It might not be the ideal camping season, but look at the nice Christmas present ideas one could pass on to his wife. I hope somebody in my family gets the message.

Now You Know

The water shrew can literally run across the surface of a quiet pool of water because of the air bubbles in its feet.

Of Carps and Cameras

By Keith C. Schuyler

Photos From the Author

SINCE THE EFFORT here is to cover as many areas of activity with the bow and arrow as possible, my cameras go with me on every jaunt. Consequently, when Guy Ekler invited State Trooper Don Dvoroznak of Bloomsburg and me down to High-spire to go carp hunting, I went prepared. I thought.

With two cameras you can count on one of them working, usually. Guy had everything set up in advance. So long as the carp were willing to cooperate, nothing could go wrong. Probably. He had even kept check on the Susquehanna River to be sure that the water was running clear.

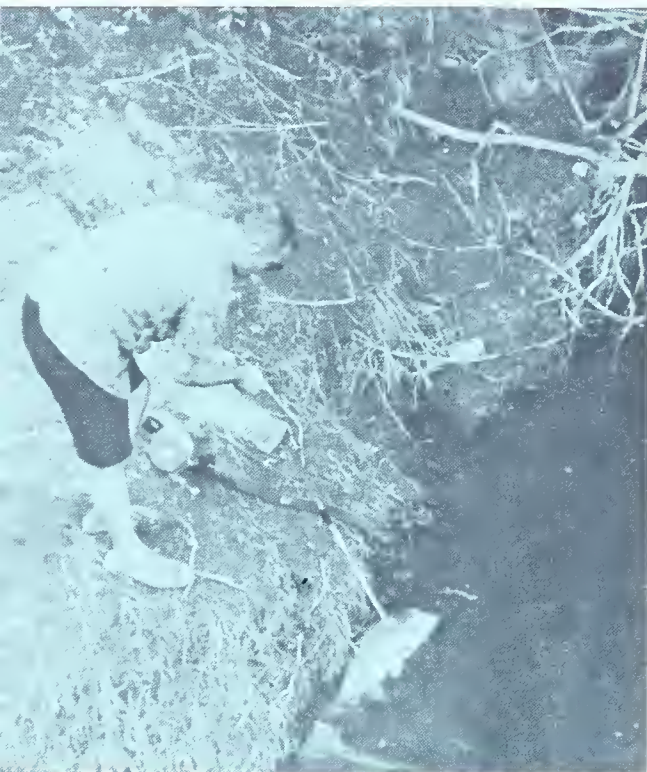
We had waited quite some time for this trip. High water during the early season had washed out our hopes to catch the carp on the spawning run. Consequently, we were willing to take



GUY EKLER PREPARES TO release arrow at carp in Susquehanna shallows. Watermarked photos resulted when camera was submerged during nighttime shoot.

pot luck as long as the water was clear.

Although we hunt carp occasionally in the upper reaches of the Susquehanna, the method used is somewhat unconventional. Instead of commercial type bow hunting reels, we normally utilize a regular fish spinning reel. It enlivens the sport since the line test is whatever is on that particular reel, usually from 10 to 20 pounds. Instead of regular solid glass fish arrows, we use junk shafts which have been previously broken off close to the head. By fastening the spinning line to the regular fish hunting head and inserting the wooden shaft lightly into the head, we have a combination that



STATE TROOPER Don Dvoroznak, who had the proper combination for carp hunting, brings in his first fish, a 14¼-pounder.

spells tops in sport. On the hit, the shaft separates from the head to permit the carp as much freedom as possible.

It was a rig such as this that I took along for our daylight hunting. That was my first mistake. In an effort to more closely simulate fishing, I rigged a wire loop as an end line guide at the top of the bow tip. In this way, once a fish was impaled by the head, it would be possible to play it from the reel and the bow much in the manner of a regular fishing rod.

I had checked the thing out at home, and it worked perfectly—with dry monofilament. More on this.

Meanwhile, back at Highspire, Guy had everything in order except the weather. Our plan was to hit the river early in the afternoon, take time off for dinner, and then resume our hunt at night. A heavy thundershower kept us inside after lunch, and we alternated between watching some of Guy's

movies on shark hunting excursion and the weather. It was 4 p.m. before we could venture out.

The area we wished to hit first took us over Swatara Creek on the outskirts of Middletown. We stopped for a look. A big carp was lolling in deep water near a large elm. Don grabbed his bow and took off down the bank while I dug out the cameras and telephoto lens and Guy posted a spotter. By the time Don made it down the high bank, the carp was gone. After a quick search revealed nothing, I called down to Don.

"We might as well get a picture. How about drawing your bow and letting go on the count of three."

Don took aim, and I counted, "One, two, . . ." He wasn't paying any attention. "Hey, Don, let's try it again. One, two, three." I shot with the camera. Then he shot his bow. I thought a bad word.

Suddenly I realized why Don had ignored me. He had actually shot at the carp—the big one! Furthermore, he had him on. The fish swept back and forth, up and down the deep hole as the trooper worked him in hand over hand. It weighed in at 14¼ pounds, a good one. Not bad for a starter.

One thing Guy hadn't reckoned on we discovered when we reached the preferred spot in the Susquehanna Bridge construction. The backwater was quite muddy both from construction work and action of the carp. We forgave the carp. They were all over the place, and they represented the name of the game we wanted to play.

Don took off like a swamp buggy—quite an accomplishment since we had to wade through about ten inches of mud. Guy slogged away while I directed my attention to a couple of

STRAIGHT
FROM THE BOWSTRING

smallish carp that couldn't see me much better than vice versa. My first shot was a miss, but the rig worked like a charm. I retooled for another *Cyprinus carpio* coming my way. On the shot the line broke. In fact, it broke on every other shot until I discarded the idea. By that time, my line was so jammed up on the reel that I had to abandon that, too.

Busy Bowman

Up the shoreline the constabulary was whooping it up. He had one just four ounces heavier than his Swatara fish. Then he shot another, and another. Guy and I got away from him. My feelings had been bruised enough. I had a brand spanking new Saunders clip-on bow reel in the car, but it was too much mud away for the time we had remaining. Anyway, we discovered a small herd of carp in some backwater, and we went to work on them.

Despite lack of line and the junk arrows I was using, I managed to pin two carp and still recover my arrows in the muddy water. Guy took four. The law had gathered 13! We compared notes. Although only a few of the carp were actually weighed, we figured they averaged around six pounds each. That added up to well over 100 pounds of carp in just a few hours.

It was dark by the time we returned to the car, scraped off the mud and headed for the nearest steak. Although I was dragging at the end of the venture carpwise, at least I had collected plenty of good photographs—I thought.

By the time we waded through the steak and steered back toward the river, it was approaching midnight. The afternoon excursion was merely window dressing; it was the night shooting that we had come for. And Guy was really set up for it.

His rig for night hunting is a home-made job that is ideal for the purpose. From an old gooseneck lamp, he fashioned an underwater light with a metal



SPECIALIZED GEAR is available for such shenanigans as carp shooting, but Schuyler's group often uses regular spinning reel with junk arrows.

cover. This, in turn, was fastened to a clamp arrangement which attached to the gunwale, or top of the boat's side. On the clamp was a toggle switch for the light. Power was supplied by a 12-volt car battery.

We had rented a 14-foot, flat-bottomed metal boat so that there would be standing room for two shooters. The carp are in the shallows at night, and it is not unusual to bump an underwater stone or log. Good footing is needed.

We shipped out just below the Pennsylvania Turnpike bridge. After traveling only a few yards, Don called for a halt. In the dark, we had loaded too much forward, and about eight inches of water was coming in over the prow. Lying with the case open, since a new electronic flash gun with which I had just taken the very first



MUCH OF THE EXPEDITION'S CARP SHOOTING was at close range, but here Guy Ekler is set to launch a long shot—his bare feet solidly planted in the mud.

picture was attached, was my camera. It was on the front seat where said water was pouring in.

As we drifted, I hurriedly unloaded the camera and dried it out as well as possible under the circumstances. The color film, on which was recorded Don's shooting at Swatara Creek, was removed prayerfully. Since that took care of any more night photos, I could now concentrate on shooting carp. Anyway, I was anxious to see how Guy's light would operate.

We charged gently upstream, enjoying the lights of Harrisburg and the occasional airplane taking off or landing from the airport across the river. Finally Guy reached the desired spot, and we lowered the light.

Fast Shooting

It was necessary to use care with the light so that the fast change in temperature didn't break the bulb. However, by lowering it underwater first, there were no problems if one didn't get careless. We didn't. It illuminated an area about six feet in diameter. At the speed of the river's current, this made for fast shooting.

Any fears about having the light smash on an underwater rock were quickly dispelled. There are numerous big stones in the river bottom, and the light shade bounced merrily off many

of them, the metal gooseneck taking up the shock.

Guy took the tiller on the outboard where he remained for the entire night so that the trooper and I could resume our so far one-sided contest. The very first action was a double.

Two carp appeared simultaneously as the light drifted over them, and Don and I released almost together. Both carp took off at once, one below and one under the boat. Guy hit the oars and held her steady while we worked our fish back to the light. They were twins; each weighed exactly seven pounds.

We saw many catfish and small bass and the carp were easy to spot when they appeared. We didn't get shooting at many of them as they were in the light for but an instant. Their gray shape was unmistakable. Well, almost. Once I made a *beautiful* shot on the fringe of the light and came up with a water-logged section of a large limb. But I picked up a couple smallish carp, too.

Then the law missed and I rammed a good one. It proved to be the equal of Don's first of the afternoon, 14½ pounds. He promptly shot one 19 pounds!

Both of us were using regular bow reels for the night hunt, and we had 80-pound test lines attached to regular

fish arrows. At close range, the stony bottom was rough on the arrowheads, and we smashed several on rocks. Strangely, we got the most action out of carp shot near the head. One seven-pounder repeatedly charged into the side of the boat as though determined to dump us. Frequently, the big fish would head under the boat since it was necessary to drift with the prow pointed somewhat toward the center of the river. Any that headed upstream automatically went under the boat.

It seemed at times as though even the heavy line would be too light, as the carp sloshed and ripped around above us in the dark with a tight line the only evidence that we were fast to it. Only once did we need two arrows. On Don's 19-pounder, the fish was struck lightly, as evidenced when it was brought back to where we could see it. I held his line steady for him as he made an excellent shot right between the eyes from the length of the boat.

As the shore lights dimmed into the gray of early morning, we had the additional thrill of seeing the sun rise over Dauphin County. When daylight came on, the carp went out. We headed in. I had finally edged Don out on the second round, seven to five. Our total for the entire trip was something over 160 pounds of carp.

Although we had much more action

during daylight, the novelty and the challenge of shooting while on the move at night provided many more thrills per pound of fish. It was Guy who had engineered our enthusiasm for the idea, and he had proven his point in a most satisfactory manner.

Picture Problems

There was still a problem relative to photos, but I had no real worries on this score. I had taken plenty with the other camera in black and white during the late afternoon. However, my regular photo finisher was not available, and a commercial house all but ruined the negatives! This forced me to depend upon the color film which had been sent away for processing with considerable misgivings. When it arrived, there were water marks on many of the transparencies, but enough was salvaged to provide a record of the trip. Both the camera and the flashgun went back to the factory for repair.

Across Pennsylvania there are countless opportunities for carp hunting with the bow. Day or night, it is off-season shooting of the finest. Add to it the satisfaction of contributing something to conservation in removal of a misplaced foreign fish that belongs in the category of the European starling, the English sparrow and the South American nutria.

Archery License Sales Will Top 128,000

Pennsylvania's archery hunting license sales for the 1968-69 year will top 128,000, according to Game Commission Administration Division Chief Daniel H. Fackler. More archery licenses are sold in Pennsylvania than in any other state in the nation, and the 1968-69 figure represents an increase of about 18,000 over the sales for the previous year. Allegheny and Westmoreland Counties are the leaders in sales. More than 7700 were sold in Allegheny, while Westmoreland's sales topped 4300.

Since the creation of the archery license in 1951, the sport has been one of the state's fastest-growing forms of outdoor recreation. Adding impetus to the movement this year will be the staging of the world and national archery championships in August at Valley Forge State Park.



GAME NEWS COLUMNIST Don Lewis and editor Bob Bell record chamber pressure readings after a day's shooting on the range.

P-R-E-S-S-U-R-E

Friend and Foe!

By Don Lewis

Photos by Helen Lewis

I HAD JUST finished zeroing in my chuck rifle when an acquaintance laid a nice-looking scoped rifle on the benchrest.

"Would you pay ninety dollars for that outfit?" he asked.

"I sure would, but no one is going to sell an outfit like that for a mere ninety dollars," I tossed back at him.

"That's all I put on the line for it," he claimed. "In fact, the fellow threw in two boxes of his own handloads to boot."

"This must be your lucky day, or else you're pulling my leg," I replied. "The pump rifle is worth that much alone," I added.

"I know that. We're friends, and I guess he wanted to give me a real bargain," he continued as he opened

one of the boxes of handloads. "Take a few shots for me and see what you think of it. These are supposed to be his extra special loads. He's done a awful lot of talking about his long range shells."

I fed a round into the chamber and closed the action. Not knowing how the rifle was sighted in, I aimed for the middle of the largest clean target and squeezed the trigger. When the rifle cracked, the entire countryside turned forty different colors. It seemed as if a charge of hot sand had been slammed into my face. Luckily for me I had shooting glasses on, but both eyes burned and stung. My right hand was so numb I couldn't feel the rifle in it. For a few seconds I sat there with both eyes closed. Actually, I was

afraid to open them; I thought I was blind.

I can't describe the feeling of relief when I finally opened my eyes and found them to be only irritated by the gas. I looked at the rifle and smoke was seeping out of every crack. The owner was just staring; he couldn't believe his own eyes.

"What happened! Are you hurt?"

"I guess the case must have ruptured," was all I could think to say.

It took a little time for me to gather myself together, and when I got around to examining the rifle, I discovered that it was locked tight. I couldn't budge the slide no matter how hard I pulled and yanked. A half-hour of hard work finally opened the action, and we discovered the case had split down the middle and the head of the case had separated at the web. It was lucky for both of us that the gun held together under the tremendous surge of pressure. I later discovered that the man who loaded the ammo had been mixing powders in an attempt to increase velocity. The cases were new, but the wild surge of pressure split the one I fired from end to end. Here was one handloader who gave little or no thought to the ex-

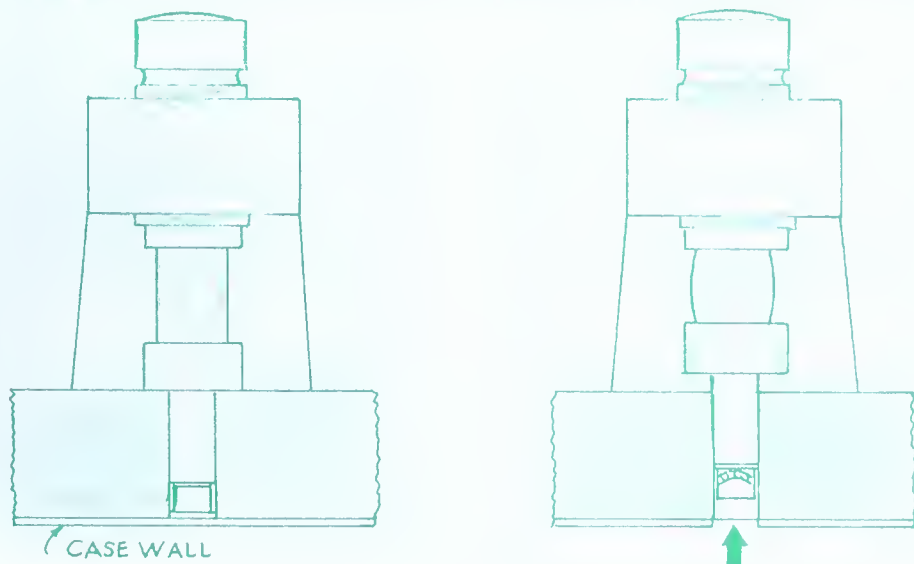
panding gases known as pressure.

Of all the various aspects of internal ballistics, pressure is the least understood. I suppose it's because the average handloader or rifle builder has no way of determining it. Pressure-recording equipment is complex and costly. We simply have to accept the fact that the loads suggested in a loading manual are within the safe limits of the rifle. Some manuals show pressure readings, but these are guides only, since the loads were fired in a regular pressure barrel. The handloader works with a variety of rifles and he never knows for sure if the pressures listed will be the same in his rifle. They never are, except by coincidence, so it's easy to see that pressure should be a real concern with handloaders and gun builders.

Pressure a Necessity

Pressure is necessary. It's the force that drives the bullet. Smokeless powder does not explode; rather, it burns progressively. When the primer ignites the powder charge, gases begin to build pressure inside the cartridge case. This expands the case against the chamber walls and pushes it tight against the bolt face. With no further

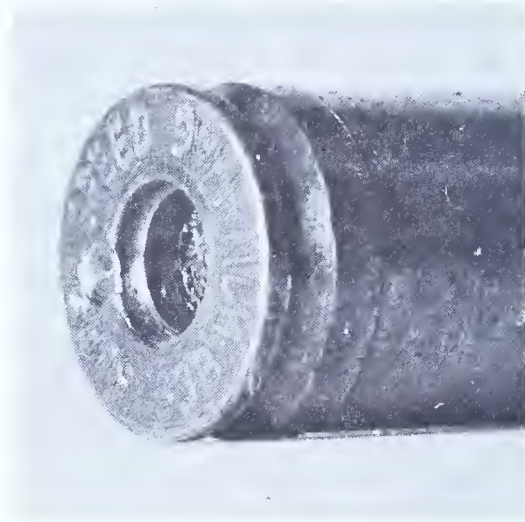
ILLUSTRATION OF COPPER CRUSHER GAUGE. Piston inserted in hole drilled through barrel compresses copper cylinder when cartridge is fired. See text for details.





upon the toughness of the barrel and action. Naturally, this is important. But first consideration must be given to the shell case. It's the case that must hold. Regardless of the strength of the action, if the case ruptures and loose gas enters the action, the consequences can be severe. This is enough reason alone for handloaders to pay close attention to the cases.

Another mistake in thinking is that some actions are beyond breaking. Keep in mind that metal has a grain in it. Every time it is subjected to strain, it actually weakens somewhat. True, it might take years of shooting



room for expansion, the only course left is for the bullet to move forward. In an exceedingly short period of time, internal pressure builds as high as 60,000 pounds per square inch in some of the high-velocity rifles. This may not be too high in some bolt action rifles, but, generally speaking, excessive pressures are a safety hazard and detract from accuracy. Through the years, pressures of 50,000-55,000 psi have come to be accepted as maximum in strong bolt guns. Most other designs cannot handle this much safely.

A good bit of emphasis is placed



OPPOSITE PAGE—top: metallic sensor installed around primer in York-Cantrell pressure machine; middle—photo shows how primer pocket is relieved to about half its depth to accept sensor; bottom—view of case head with sensor installed, tab turned over into its depression. Right, the Y-C machine in use. When needle point contact with sensor is made and operating button depressed, absolute chamber pressure in pounds per square inch is read directly off dial.

and hundreds of thousands of rounds, but, in time, any action will let go. When an action is pressed to above normal pressures time after time, this result might come very quickly.

Breech pressure has mystified hand-loaders for years. They were well aware that excessive pressures could be harmful, and all sorts of methods were used on the individual level to try to determine when pressures were becoming unsafe. The sad part of this is that when evidence is clear that the pressure is too high, the critical line has already been passed. In other words, when the bolt begins to stick and extraction is difficult—the first abnormal sign usually noted—the pressure is beyond safe limits. Watching for distortion in primers and measuring case expansion has long been used, but, this too, is not exact and can be misleading. The truth of it is, the individual loader has no way at all to show him when he is obtaining pressures that are normal and safe. Most assume that if they have no trouble, all is okay. To be safe, he should stick close to the suggested loads in the manual, then there is little chance that he will incur any disastrous results.

Copper Crusher System

The arms companies, with plenty of money to experiment, designed various methods to measure breech pressure. The most common is the copper crusher system, which uses a special pressure barrel that fits into a Universal-Bond receiver. This special barrel has a hole of exact dimensions drilled into the chamber. A precisely ma-



chined steel piston is fitted into the hole, and above it a copper cylinder of known dimensions and physical characteristics is held in a yoke. When the cartridge is fired, a disc of brass is punched out of the wall of the case, and the steel piston is forced against the copper cylinder. This compresses the copper cylinder, and by comparison of the compressed length with its original length, the pressure rating in "pounds per square inch" can be determined by using a tarage table which is supplied with the copper cylinders.

As elaborate as this sounds, it has some weaknesses. First, the barrel is a special one and not the identical barrel that would fire the local loader's cartridges; thus the results can't be the same. Probably the best challenge to the accuracy of this system is that the results are not true pounds per square inch. The drawback comes from the calibration of the copper cylinders through the use of dead weights, while

in firing the application of force is dynamic and is produced in a very minute period of time. Apparently, this short span of time does not give the copper cylinder sufficient time to compress exactly as it should for a given pressure. This is especially true at the higher stages. However, the use of this system over the years has produced a large amount of data indicating how various loads compare when kept at the accepted levels, so the system continues to be used.

The piezo-electric gauge system uses a crystal that produces a measurable electric charge when it is subjected to pressure. One type of the piezo gauge works on the principle of the copper crusher idea.

Another method is known as the strain gauge system. This system does not require any drilling or modification of the barrel or action. It simply is a fine wire embedded in a thin material which is cemented tightly around the outside of the barrel. The pressure exerted by the burning gases causes the barrel to expand. Although the expansion is ever so slight, it is enough to stretch the wire and reduce its cross-sectional area. The stretching of the wire causes a change in the wire's electrical resistance which is proportional to the pressure. This can be measured with certain electronic equipment. The stopper in this system is that such equipment costs more than a new car.

New System

A new system is the York-Cantrell breech pressure measurement system. It works on a new concept. Other systems require the use of special barrels or wire filaments plus expensive electronic equipment. The York-Cantrell system works on the cartridge case. The method used is relatively simple to operate. It is an electrical pressure-sensing device in which a thin metallic pressure "sensor" is placed in the altered primer pocket of the cartridge case. The primer pocket is

enlarged slightly around its circumference to about half of its depth to accept the sensor. The sensor has a small tab on it, and a slight indentation is made beside the primer pocket for the tab to fit into. This is done to keep the bolt face from tearing off the tab.

When the electronic sensor is exposed to the pressure generated by the burning powder, the sensor's electrical properties are changed as the pressure changes. The York-Cantrell system measures these differences and gives a true reading in absolute pounds per square inch.

Simple to Use

York-Cantrell modifies the cases and installs the sensors. After I fired a series of test rounds, I simply placed the fired case in the measuring device, touched the sensor with a needle contact and depressed a button. A meter pointer indicated the pressure on a large calibrated dial. The only requirements are to wait a few minutes after firing to allow the case to cool completely. No special tools are required. The unit weighs about 10 pounds and costs about as much as a good scope-sighted rifle. (For information, write to Michael W. York, 120 South Arlington Ridge Road, Arlington, Va. 22202.)

The most interesting thing noted in the pressure testing we've done is that there is a considerable variation from shot to shot, despite all efforts to load ammunition as precisely as possible. Using selected cases, bullets from the same box, and powder charge weighed to 1/10-grain accuracy, it still is not unusual to get pressures varying 5000 to 8000 pounds per square inch. This is not unique to the Y-C machine. Results from copper crusher devices, piezos and strain gauges all record these differences. However, since routine ballistic reports list only *average* pressures for a given load, these extremes are not mentioned. But we feel the handloader should be made aware of this. If he is constantly loading t



AL WARDROP FIRES 338 MAGNUM through chronograph screens to check bullet velocity. Fired cases, which have sensors installed, are then checked for pressure.

“maximum safe” pressure, and gets a cartridge that gives thousands of psi more than this, perhaps in combination with an old, weak case, he could well have trouble.

Pressure testing also shows that the same carefully weighed powder charge will often give different average pressures with bullets of the same weight but of different makes or designs. This is largely due to differences in jacket thickness or hardness, different bearing surfaces, different core hardnesses or relationships between jackets and cores, etc. This too should be kept in mind, as most handloaders accept without question the loading data that simply calls for a certain weight of bullet without identifying the brand.

Normal procedure in each of these tests was to assemble five rounds with each of four different powder charges, using the same bullet and primer. Charges were usually at two-grain intervals (occasionally at three, in magnum cases). This gave good coverage of the powder being used, from a rather low charge to near maximum.

Cartridges tested were the 22-250, a fine varmint load; the 284 and 30-06, both excellent on average big game;

the 300 Winchester Magnum, a long-range target and hunting round; and the 338 Magnum, useful on the largest North American game.

Typical results are shown in the accompanying tables. Note that the direct readings were in absolute pounds per square inch of chamber pressure. These were converted to copper crusher readings in order that the reader would have an easier reference to other available information.

In a general sense, it can be seen that pressure rises in a fairly predictable curve with loads such as these —*so long as the loads fall within what might be called a powder's normal working range*. However, once a certain point is reached, addition of more powder causes an abnormal increase in pressure with little or no accompanying increase in velocity. Here is where a handloader who is constantly loading maximum-plus loads, as too many do, can get into serious trouble. Something might come apart. If you're lucky, it will just be the gun. Pressure is necessary for a firearm to work, but it's something that must be taken seriously. Never forget that.

See next page for sample tables.

The following tables are given as information only, and are not necessarily recommended as loads for any rifles. The considerable spread between minimum and maximum pressures with given loads in given guns illustrates the impossibility of accurately predicting what these, or other, loads might give in different guns.

Caliber 22-250 Remington

Rifle: M 700 Remington	Cartridge Case: Winchester			Powder: 489
	Bullet: 53-gr. Hornady Match H.P.			
	Charge: 30 gr.	Charge: 32 gr.	Charge: 34 gr.	Charge: 36 gr.
Maximum Pressure	40,000 psi	46,500 psi	57,000 psi	61,500 psi
Minimum Pressure	35,000	40,500	45,000	59,500
Average Absolute	36,800	43,000	52,100	61,000
Approx. Crusher	36,000	39,500	46,000	53,000
Approx. Velocity	3,225 fps	3,375 pfs	3,550 fps	3,800 fp

Caliber 284 Winchester

Rifle: Custom M 98 Mauser	Cartridge Case: Winchester			Powder: Reloder 2
	Bullet: 145-gr. Speer Spitzer			
	Charge: 44 gr.	Charge: 46 gr.	Charge: 48 gr.	Charge: 50 gr.
Maximum Pressure	53,500 psi	55,000 psi	58,500 psi	66,250 psi
Minimum Pressure	50,000	51,000	55,750	63,000
Average Absolute	51,300	53,400	56,750	64,750
Approx. Crusher	45,000	48,000	50,250	57,000
Approx. Velocity	2,550 fps	2,680 fps	2,775 fps	2,900 fp

Caliber 30-06

Rifle: 1903 Springfield	Cartridge Case: Remington			Powder: Reloder 2
	Bullet: 165-gr. Speer Spitzer			
	Charge: 51 gr.	Charge: 53 gr.	Charge: 55 gr.	
Maximum Pressure	52,500 psi	59,000 psi	60,000 psi	
Minimum Pressure	36,000	51,000	52,000	
Average Absolute	43,750	53,000	55,000	
Approx. Crusher	39,000	47,800	49,000	
Approx. Velocity	2,650 fps	2,775 fps	2,850 fps	

Caliber 300 Winchester Magnum

Rifle: Custom M 1917 Enfield	Cartridge Case: Remington			Powder: 483
	Bullet: 190-gr. Sierra Match King			
	Charge: 72 gr.	Charge: 74 gr.	Charge: 76 gr.	
Maximum Pressure	58,000 psi	59,000 psi	65,000 psi	
Minimum Pressure	56,000	54,000	59,000	
Average Absolute	56,500	58,000	63,000	
Approx. Crusher	50,000	52,000	53,500	
Approx. Velocity	2,775 fps	2,825 fps	2,900 fps	

Caliber 338 Magnum

Rifle: Custom FN Mauser*	Cartridge Case: Winchester			Powder: 483
	Bullet: 225-gr. Hornady Spire Point			
	Charge: 74 gr.	Charge: 76 gr.	Charge: 78 gr.	
Maximum Pressure	51,000 psi	54,000 psi	59,000 psi	
Minimum Pressure	44,000	47,000	54,000	
Average Absolute	47,500	51,600	56,400	
Approx. Crusher	42,000	45,000	50,000	
Approx. Velocity	2,650 fps	2,725 fps	2,800 fps	

*Magazine has been lengthened 1/4" and bore throated to accept this much increase in overall cartridge length. This gives several grains more case capacity than cartridges loaded to factor length.

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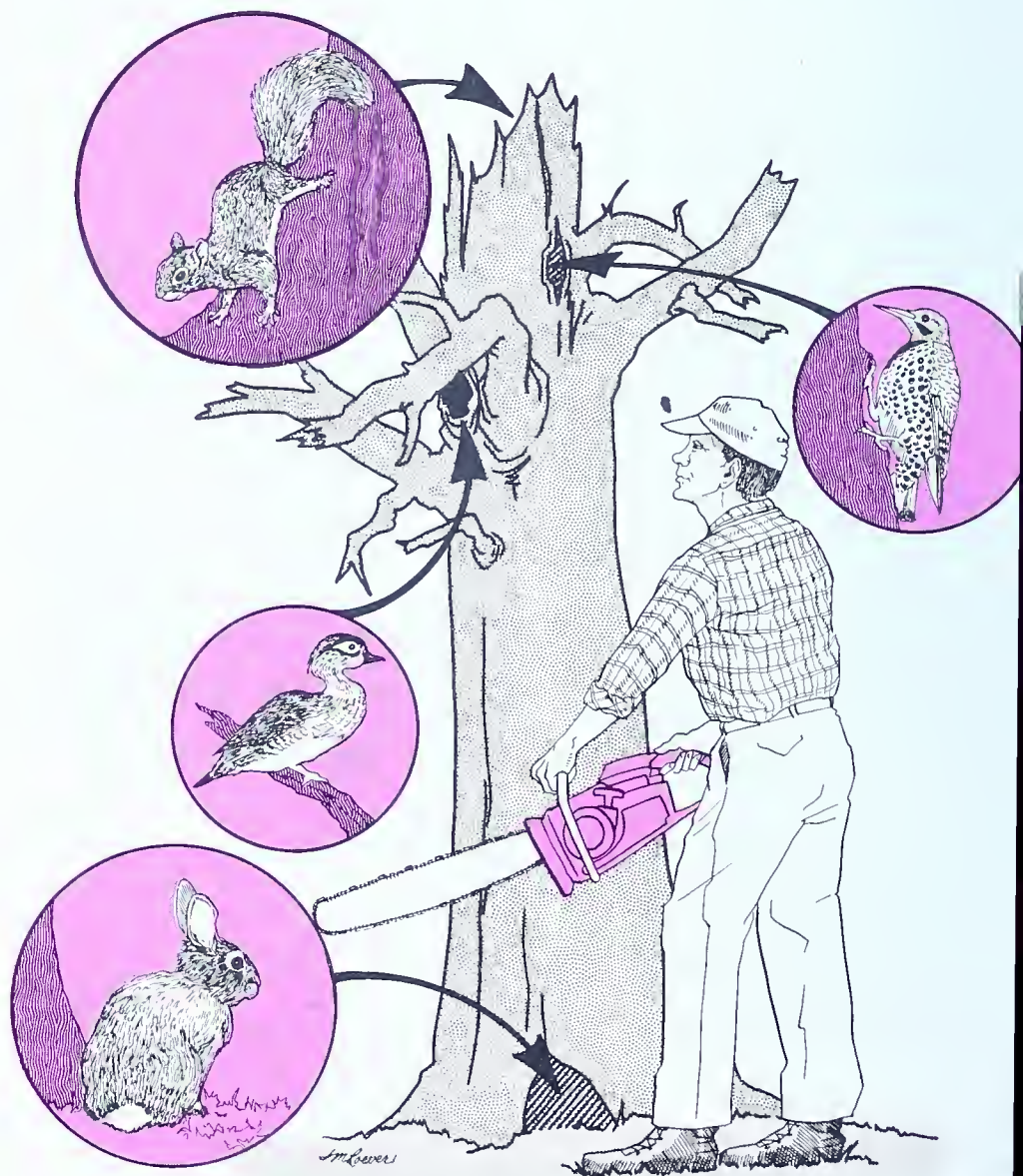
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Leave Some Standing for Wildlife Habitat

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COVER PAINTING BY CHUCK RIPPER

To many Pennsylvania hunters, the ruffed grouse is the loveliest bird that ever flew. And, at the same time, perhaps the toughest. A creature of contradictions, one might say. A shy, unobtrusive wraith of the damp hollows, he can disappear as soundlessly as a breath of mist at the first inkling of an intruder in his dark woods . . . or pose boldly on his drumming log, shredding the silence with his machine gun wingbeat . . . or strut through a shaft of sunlight, displaying quiet pride in his rich, restrained raiment. Is it any wonder we chose the grouse as our cover subject for this 40th anniversary issue? What other game bird would do?

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Dedication . . .

IT IS A REAL pleasure to write a few words of greeting to the members of the "family" known to the outside world as the Game Commission of Pennsylvania. To be identified with this organization is an honor and a privilege. As a result of your cooperation, Pennsylvania is the greatest game state in North America. In fact, our system is the model for all other states. Many are following in our footsteps and looking to us for leadership. Let us all do our utmost to make our system even greater, as we can always improve and it is necessary for us to keep pace with the constant growth and expansion from year to year if we are to maintain our leadership.

Take advantage of this service letter, use it as much as possible, and all will be aided in many ways as a result. It is yours—how valuable it will be depends upon yourself.—Ross L. Leffler

From the "Monthly Service Bulletin" July 1929, Volume I, Number I, the above dedication is the first item ever to appear in the publication now known as "Pennsylvania GAME NEWS."





By NED SMITH

It's July, and wild berries abound. Above Humphrey's Hollow there's an impatient fledgling broad-wing, and in a dark closet three Jack-O-Lantern pumpkins take their own picture . . .

I GUESS it was the old canal bed and its towpath that turned my thoughts to olden times. At any rate, I found myself identifying the plants I encountered there in the river bottom and recalling the uses to which earlier men, both red and white, had put them. It was a revelation. Even my scant knowledge of such things attributed old-time uses to a surprising percentage of the wild plants.

That coarse weed, amaranth, and head-high wild sunflowers growing along the towpath, were representatives of some of the first plants cultivated by the American Indians. Centuries before corn reached this area from the Southwest, local red men made flour from the seeds of improved varieties of these, or similar, plants. Interestingly enough, none of these Indian-developed plants remain; they are known only through the parched remains of the unground seeds found in hearths and utensils unearthed by archaeologists.

White oaks, like the patriarchs growing along the river bank, provided acorns which were a principal source of Indian flour. And other trees had other uses. The basswoods of the alluvial flats furnished tough inner bark which the Indians twisted into excellent rope. Shore-loving silver maples were tapped for syrup and

sugar. Hickories provided tough bow wood, edible nuts, and a palatable oil.

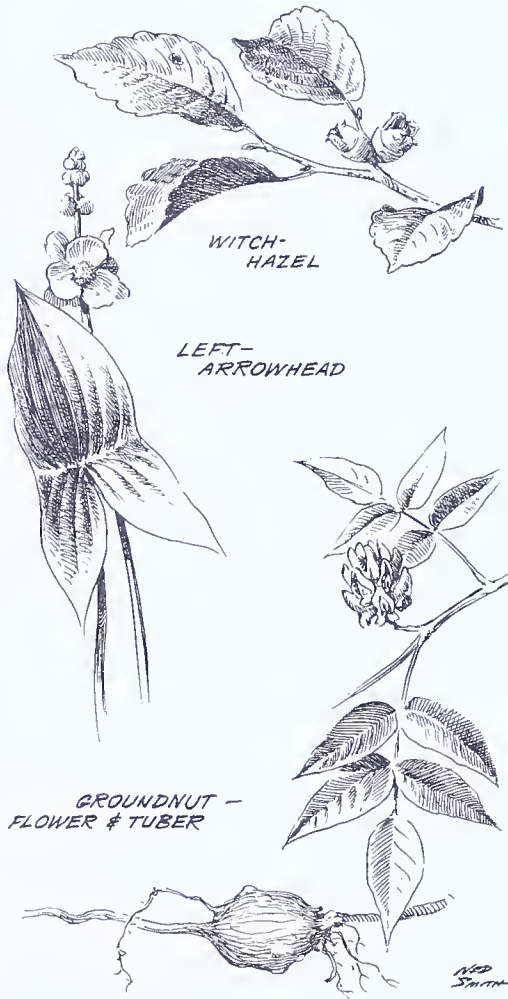
I found two important Indian foods growing close together. Vines that trailed onto the pebbly shore itself proved to be the celebrated ground-nut, whose underground tubers were relished by Indians and early whites alike. A nearby muddy eddy was choked with the glossy green leaves and white flowers of arrowhead. In the fall the squaws waded in the shallows to locate arrowhead tubers and free them with their bare toes.

Cattail leaves from the swampy areas provided material from which Indians wove mats and shelters and early settlers made chair seats and baskets. The young shoots were eaten by Indians, as were the immature flowering spikes. The down was used, we are told, for padding on cradleboards.

White settlers utilized most of the plants used by the Indians and added a lot more for real or imaginary medicinal purposes. The tea made from sassafras root was thought to have medicinal properties (and in rural areas is still drunk in springtime to "clear the blood"). It was also used for dyeing and for flavoring. Our forefathers made an astringent pain-relieving decoction from the leaves and bark of the witch hazel, and used its

forked branches to locate underground water by the mysterious process known as "dowsing."

Everywhere I looked I saw useful plants—from the obviously desirable fox grapes and blackberries to the ostrich ferns (which produce unexcelled edible fiddleheads). And for each one I recognized a Susquehannock squaw or a pioneer woman would have probably found use for half a dozen more.



July 2—The tufted titmice no longer raise a fuss whenever I set foot in Weaver's woods, and I've suspected they are nesting nearby. Today I found the proof when I checked a bluebird house on the fence post near the woods. It was nearly filled with nesting material—a spongy mixture of small leaves, fine strips of bark, and bits of cellophane surrounding a deep

cup thickly lined with deer and rabbit hair. Four tiny brown-flecked eggs were posed in the luxuriously soft cup.

Like the crested flycatcher, the tufted mouse often weaves a discarded snake skin into its nest, and like that bird often substitutes the more readily available cellophane.

July 5—This morning I savored what was apparently the last of the wild strawberry crop hereabouts, and this afternoon I picked the first of the black raspberries—a quart or two of delicious drupes. We're never without wild berries in July. The blackberries and dewberries will be next to ripe, followed by elderberries. Blueberries and huckleberries occur in early and late types to bridge any possible gap.

July 7—The squeal of a broad-wing hawk brought us to a halt on the lane overlooking Humphrey's Hollow within yards of the complaining bird. While she perched on an oak limb and pleaded with us to move along, we eagerly scanned the trees for the nest we felt sure was there. Mary happened to be in the right position for she quickly spotted it through one of the few openings in the foliage—a substantial platform of sticks in the crotch of a tree growing near the bottom of the hollow. A large fledgling was the sole occupant.

Moving closer I found that I could photograph it at eye level from a spot on the steep hillside only about thirty feet away—I could have, that is, if there had been enough light. But there wasn't—the day was cloudy and the hour late. I'll be leaving for a week of salmon fishing in New Brunswick early in the morning, and it's doubtful if the young bird will be in the nest when I get back.

July 15—I arrived home last evening and as soon as the light was right we drove up to the broad-wing nest. To my relief the young bird was still in the nest. Through the binocular

could see the traces of buffy down that marked him as a fledgling; otherwise he looked much like an adult. He was tearing something apart—probably a mouse that a parent bird had brought him. With high hopes I eased through the woods to the previously

BROAD-WINGED
HAWK



selected vantage point. Aiming the gunstock-mounted camera, I braced it against a tree trunk, but before I could press the shutter release the bird flexed its wings and took to the air, flapping out of sight across the hollow! The camera never had a chance to click, and we never saw him again.

July 16—Still smarting from the broad-wing experience, I refused to be prematurely optimistic about the picture possibilities presented by a young flicker looking out of a nest hole in a fence post along Shomper's lane. The old bird was calling from the creek bottom, urging him to leave the nest; he seemed to be saying, "Yes, maw, but don't rush me."

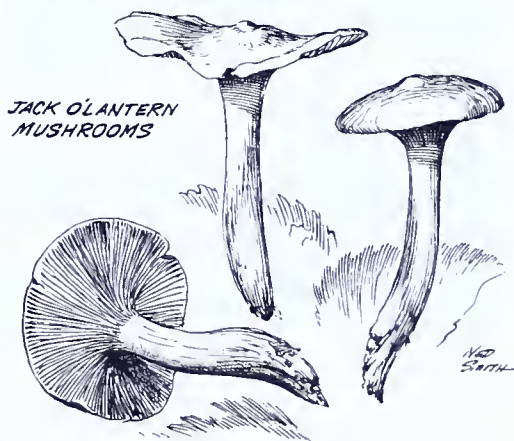
Knowing that success hung in the balance, I eased toward the reluctant nestling as quietly as possible. But it wasn't quiet enough, for he suddenly leaped out and flew unsteadily across two fences and into the woods across the road.

Immediately another fledgling ap-

peared in the "doorway." This one, too, took wing before I could focus and shoot. However, he made a crash landing in the tall grass a scant fifteen feet away, so I picked him up and stuffed him back into the nest hole. By the time he had regained his composure and was again ready for take-off I had focused and snapped several pictures.

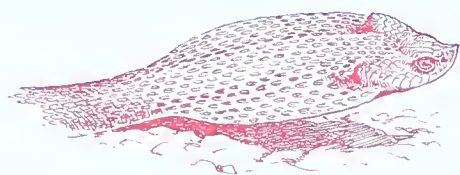
July 18—Myles Rummel caught a hog-nose snake yesterday—a completely black one—that is quite an actor. When he spreads and flattens his neck and raises his sinister-looking head above the ground it's hard to believe he isn't poisonous, like the cobra he resembles. And if that bluff doesn't scare anyone he flattens his entire body, except for the tip of the tail which is twirled into a tight spiral. He doesn't open his cavernous mouth and "strike," as many hognoses do, nor will he feign death except on rare occasions. But I've never seen another snake flatten himself so completely. At intervals he jerks convulsively to the accompaniment of an explosive hiss; the rest of the time he looks like a wide black belt with a little curl at one end and a leering face at the other.

Other hairless creatures resort to bluffing tactics, but one of the most unexpected examples was, of all things,



JACK O' LANTERN
MUSHROOMS

a fence lizard. If the outcome was a surprise the situation that brought it on was not, for we deliberately arranged the meeting of the lizard and a tame chipmunk that lived in a stone wall in our backyard. It was easy. The



HOGNOSE SNAKE—
LOOKING FIERCE



lizard was sunning on the wall perhaps fifteen feet away, and the chipmunk was doing the same thing about fifty feet away. Scraping a peanut on a rough stone and calling his name brought the chipmunk scampering along the top of the wall in our direction. But when he got to the lizard that squat reptile suddenly humped its back, straightened its legs, raised its

tail and inflated its body, assuming an amazing resemblance to a startled cat. The abrupt appearance of this hideous scaly creature in his path not only caused "Chippy" to slam on the brakes but it completely unnerved him. After staring for ten or twelve seconds he turned and scampered to the far end of the wall to watch from a safe distance. In time the lizard relaxed and slithered into a crevice, but the chipmunk never did come for his peanut.

July 27—Many old tree stumps on the north side of Dividing Ridge are nearly smothered by hordes of orange mushrooms that have sprung up around them over the past few days. They are the species called "Jack-O-Lanterns"—a not inappropriate name since they are pumpkin-colored and the gills on the underside of the cap glow in the dark. It's not a brilliant luminescence, but a pale, white glow that can best be seen in a completely darkened room after the eyes become adjusted to the lack of light. Too-old or too-young specimens refuse to glow.

Last week I placed a few fresh caps upside down in a closet, focused my camera on them and, after blocking out all light, opened the shutter by means of a long air release passed beneath the door. Five hours later I got out of bed and closed the shutter.

The film came back today, and sure enough, the picture shows an eerie portrait of three mushrooms photographed by their own light.

Rules Announced for Game Lands Camping

Rules and regulations governing overnight camping along certain State Game Lands roads have been drawn up by the Pennsylvania Game Commission. These are the conditions:

1. Only trailers or mobile-type units may be used.
2. Each unit shall be located at least 500 feet from any other unit.
3. Parking shall be off the road only along State Game Lands roads designated for overnight camping.
4. Littering of any type is prohibited.
5. Any camping unit remaining overnight must be occupied.
6. Camping is permitted during the big game season only; camping during small game, archery or other seasons is prohibited.

Pennsylvania GAME NEWS Is the Oldest State Conservation Magazine in the United States . . . Possibly in the World. Here Is a Rundown on How It Came Into Being and on Some of the Changes That Occurred During the Past . . .

40 Years . . .

**By Roy W. Trexler, Chief
Division of Information and Education**

IN AN ATTEMPT to keep the salaried Game Protector properly informed, 40 years ago this month the Pennsylvania Game Commission started to distribute a Monthly Service Bulletin. Dated July, 1929, it was marked Volume I, Number I, and this Bulletin actually was the beginning of GAME NEWS.

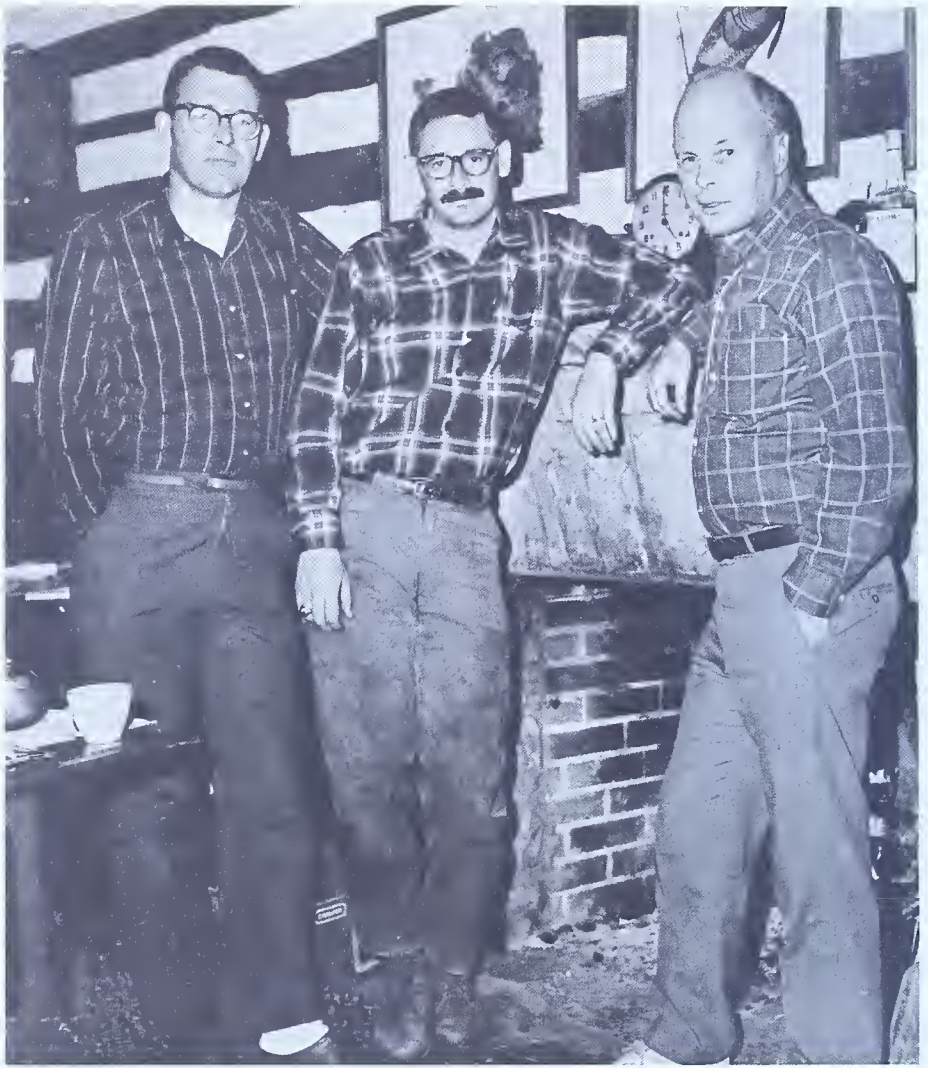
The first publication contained eight pages of 8½ x 11-inch mimeographed sheets which were stapled into a single booklet. Regular monthly copies of the Service Bulletin were published until May, 1930. At that time the title GAME NEWS made its first appearance. One noticeable difference was 8½ x 13-inch mimeographed sheets in place of the 11-inch paper.

Occasionally, the general public saw this interesting newsletter, and they expressed a desire to have monthly copies. In April, 1932, the first copy of GAME NEWS was presented in printed form with a glossy cover sheet and black-and-white picture. Sixteen hundred paid subscribers received the magazine at a cost of 50 cents per year. Leo A. Luttringer, Jr., now a retired employee of the Commission still residing in Cumberland County, was the first editor.

GAME NEWS advanced another notch in March, 1934, when the first issue was presented with a cover in full color. The number of pages varied according to the amount of copy received. This increased publication costs, and beginning with the October, 1936, issue the price of a single copy was increased to 10 cents. The annual



FIRST GAME NEWS editor was Leo A. Luttringer, now retired. That editors occasionally get away from their desks is shown by big turkey bagged by Leo in Mifflin County in 1934.



SECOND GAME NEWS EDITOR was Will Johns, at right, now Chief of the Fish Commission's Education and Training section. He was followed by George Harrison, center, and Jim Bashline, left. Photo was taken in 1967 at Harrison's deer cabin.

subscription rate remained at 50 cents per year. Effective July 1, 1946, the annual subscription rate was increased to one dollar.

Another change in *GAME NEWS* took place in September, 1950, when the size of the magazine was reduced to 6 x 9 inches, with 64 pages. As of January, 1965, the yearly subscription rate was increased to \$1.50, with a single copy price of 15 cents.

An additional color was included on inside pages of *GAME NEWS* for the first time on a regular basis in the September issue of 1968. It is expected to continue this practice each month.

While checking back issues of *GAME NEWS*, it became apparent that for many years excellent writers had contributed articles at frequent intervals. To this day, many of the writers—avid hunters and sportsmen—continue to forward manuscripts and offer an unusual backlog of material that is available when needed.

Much of the magazine's appeal may be attributed to the outstanding work of our artists. Several of these have contributed some of their finest work during the past 20 years. It seems rather unusual that one of our top artists, Ned Smith, also served as t

acting editor of GAME NEWS at one time.

Through a reader survey, former editor Will Johns learned that the average GAME NEWS subscriber especially enjoyed Field Notes. These are unusual incidents that occur during the everyday life of the Game Protector. A regular section of each issue is given to these.

Top Circulation

Many states publish conservation magazines, but the PENNSYLVANIA GAME NEWS has the greatest circulation of any — currently about 195,000 monthly. There are about 153,000 paid subscribers to GAME NEWS. Approximately 39,000 landowners who cooperate in various farm-game programs receive a complimentary copy each month. The remainder of the copies go to libraries, legislators, salaried officers, division offices and other state agencies.

Numerous sportsmen from other states enjoy the hunting opportunities in Pennsylvania. During the fall of 1968, we had about 87,000 nonresident hunters. This is one reason why there are 34,000 subscribers to GAME NEWS from other states. Actually, the magazine goes to subscribers in every state in the Union and to 27 foreign countries.

Some people consider GAME NEWS as being oriented toward only one person—the avid hunter. However, its diverse articles, which actually deal with all phases of the outdoors except fishing, have made the magazine popular among young and old, men and women. Ladies are especially pleased when a recipe which gives detailed instruction on preparing game is in-



CURRENT GAME NEWS editor Bob Bell with some chucks taken last fall. In common with most of the magazine's readers, all editors have been avid hunters.

cluded. Archers, gun enthusiasts, campers and nature lovers are favored with feature columns each month. Obviously, there is something for almost everyone in each issue. This is reflected in the magazine's increase in circulation—which has almost tripled since 1960.

One reason for this increase is the tremendous interest in the magazine by District Game Protectors and their deputies, who do much to promote it.

With continued interest in GAME NEWS, it may not be long before circulation reaches 200,000.

Must Eat a Lot

Black bear cubs weigh between 8 and 18 ounces at birth and measure 9 to 12 inches in length. By fall, they weigh between 50 and 75 pounds; a year later, between 150 and 200 pounds.



A. Rosato

Orion T. McBride's World-Famous Essay:

ON HUNTING THE CHUCK

Translated from the original

guttural English by

Mort Levy

YOU SAY YOU clobbered a chuck at 300 yards while sighting off a sandbag? And *no* scope?

A fair shot—I suppose.

You say your last kill was at 500 yards with a 12X scope on a 22-250 Remington while the chuck was exhibiting only two inches of nose?

Not bad — although through the fancy scopes they fashion today two inches *is* a lot of nose.

Now don't get me wrong; no offense meant. All I'm asking is, what's happened to the true and valiant woodsmen like myself? They don't exist anymore, that's what, and every time you lay eyes on one of these Johnny-come-lately's, all decked out with gawdy doodads, taking long-range potshots at Mr. Woody, you can chalk up one more Pennsylvanian who has surrendered his hunter's pride. The instant he squeezes that fine precision trigger, he becomes just one more naive individual who has sacrificed manly nobility and ability for scientific and technological convenience. As of that moment, he sinks to being just another soft American who has forfeited the opportunity to spend eternity in that Great Game Preserve in the Sky reserved exclusively for such authentic sylvan stalwarts as Boone, Crockett, and, yes, honesty demands that I say it, Orion T. McBride.

Consider a moment, my friends, the horrendous disadvantages of firing away at the noble *Marmota monax* with a mere gun. Where is the thrill? The exercise? What wily woodsman's skills are you called upon to execute? What rigorous demands are put upon

the intellect? Is the eye made keener when it must depend for sight upon ungainly scope and binoculars? Is the sense of judgment sharpened when scientifically computed windage and elevation knobs provide all the answers automatically? And how, oh how, can any true lover of the wilderness achieve a spiritual relationship with a furry creature when said creature is parked a half-mile away? Remember, it was the celebrated Boone himself who, in one of his rare emotional moments, declared: "The woodsman who doth not relate to the Divinely-created woods and the furry creatures thereof is a forest fink."

Reconsider Your Error

So I implore you, one and all, to reconsider the error of your modern, misguided minds, and if your grieved souls now beg for a fresh chance, if your woodsy natures cry out for instant redemption, then hump it down to the nearest farmlands and revitalize your sagging, civilized spirits the right way, the only way, the hard way.

With a bow!

Ah, does the excitement boil your blood already? Then picture it, my pseudo-hunter, your manly figure crouched and trembling, the bowstring taut, the tension overwhelming, and just a dozen yards away, *Marmota monax*, huge and voracious. You hardly dare breathe. Your nerves play tricks. And then the sudden twang, the whistle of cedar . . . and another miss that permits you to get things off your chest and allows you to prolong your warm visit with Mother Nature.

But there are countless other advantages as well, and I herewith list them for your consideration and approval.

Stalking the prey. In the early 17th Century and other manly times, stalking the quarry was the only way to get things done. In fact, if it were not for this fine and ancient art, man would possess not one-tenth of the enormous knowledge he has accumulated about forest life. Without stalking, how would he ever have encountered poison ivy, poison sumac,



USING PRIMITIVE equipment brings joyful results which are unknown to those who believe chuck hunting is strictly a rifleman's sport.

and other quaint traps that Mother Nature has devised for us? How else would he know today which plants are toxic and non-toxic if, while fulfilling the strenuous demands of stalking, he had not paused occasionally to nibble on some strange plant? The countless final resting places that decorate our forests are ample testimony of the pioneer's determination to do things right, and to see his flabby ancestors squatting shamelessly in tree

platforms or lying ridiculously behind well-packed sandbags is to witness one more instance of modern man backsliding into the fetid swamp from whence he crawled.

The joy of using primitive equipment. As has been mentioned previously, the many misses bow hunting provides the hunter will enable him both to give his chest a much needed clearing and to spend more time in our beautiful forests. With a bow he can fire at all the chucks he wants to and then scream terrible things—all in complete privacy. And he will always return home a better man for it. To add to his pleasure, he will not take to the woods with just any bow, but only with an old lemon wood or orange wood job (non-laminated) that might possibly snap in two at the most crucial moment, thus doubling the suspense and making the experience all the more meaningful. Certainly he will never trust anything beyond a semi-recurve, and, of course, he must never carry any arrows that are absolutely straight. The choice of equipment must always be dictated by an intense desire to create a challenge whose degree of difficulty will provide maximum opportunity for the hunter to exercise his lungs after each shot.

Keen Eye

Reading sign. By repeatedly stalking the crafty chuck across a farmer's fields, the bow hunter soon develops a keen eye for reading sign—both upon himself and Mother Earth. The former are easier to identify and consist of elbow scrapes, knee bruises, chigger bites, etc. The latter include the pointed remains of cornstalks, jagged bushes, greenbriers, locust hedges, etc.

The one-shot hunt. For the real man, the one who hunts chucks with a bow, every shot is a must, and he will always do his best to make it count. If he cannot put his arrow into the chuck, then he will try to imbed it successfully in the nearest tree stump or fence post. Some prefer a

boulder, but this can be expensive and is suggested only for the man who has a great deal to get off his chest. A happy compromise is to merely let the arrow skid out of sight for all time into a heavy growth of clover or soybeans.

The acquisition of much-needed virtue. It is an undisputed fact that any man who pursues Mr. Woody with a bow and persistence cannot help but acquire the desirable traits of patience and courage. It is man's responsibility to endure, and *Marmota monax* provides the archer with endless opportunities to practice this responsibility—from the moment that he steps across a barbed wire strand and snags the seat of his trousers to the final nerve-snapping instant when Mr. Woody makes his famed, hysterical charge.

The charge. A spooked chuck's only reaction is to head for home, and since the clever bow hunter will maneuver himself between the chuck and his den, said hunter is in a splendid position to undergo a spectacular thrill not given to the cowardly scope user. I refer to the charge—that awesome moment when the frightened chuck comes bearing down, waddling, whistling, and grinding his great teeth in anger. Immediately, all 10 pounds of him will look like a hundred, and it is the only time that the bow hunter is permitted to clear his chest *before* shooting, mainly because he will also be clearing two other things—the earth and the chuck—by about seven feet. In such a situation he is neither required to search for the arrow that flies only heaven knows where nor obligated to remain in the immediate vicinity of the burrow in hopes of another shot. Rather it is a prescribed and honored custom to remove oneself at once from the area and afterwards to give serious thought to the subject of fishing for crappies.

Confidence. Stalking the chuck enables the bow hunter to walk straight afterwards. While the hunters who are foolish enough to prefer guns are try-



THAT AWESOME MOMENT when the chuck comes bearing down, grinding his great teeth in anger, is a thrill unknown to the cowardly scope user.

ing desperately to convince their wives that they really have been hunting, the bow hunter has compiled enough evidence, thanks to scrapes, bites, scratches and stains to silence the tart tongue of the most shrewish mate. Such marks will win him many points, and once he has wiped his feet, his manliness cannot help but increase tenfold in her eyes.

Enough said. Shame now undoubtedly floods the heart of every reader who ever leveled a rifle at a distant chuck, and dignity abounds in the souls of those who have been wise enough to use the bow. To the former I have revealed the secret that can restore their lost manhood. To the latter I have merely repeated the glory that was always theirs. In parting, all that Orion T. McBride can offer now are the famed words of the greatest bowman of them all, King Philip, mighty chief of the Wampanoags, who said:

“Withum bullet hit a chuck,
Stupid white man, that ain’t luck,
But withum broadhead make the
kill,
And that one awful mighty thrill.”



CLIFF SPRINGER FONDLES HIS OLD Parker and holds Evans—and Evans setters—spellbound with tales of yesteryear's grouse.

Man With a Gun

By George Bird Evans

Photos by Jack Gates

CROSSING the high concrete bridge over the Youghiogheny flood control dam from Fayette into Somerset County, you look down on a marina and a rash of buildings that, to me, seem as out of place as the modern bridge. There was a time when Somerfield lived its drowsy village life in the southwestern Pennsylvania grouse country which is now at the bottom of this lake. All too few of the gunners of those days are still alive. One of them, Cliff Springer, is.

Speaking of his son, Cliff once paid me a compliment. "Wright and his friends will never make grouse hunters," he said. "They're not serious hunters like you and me." In those

days I hadn't thought of myself as "serious," but when Cliff looks at you over his half-lens glasses as if over gun barrels, there's not much to be gained by arguing. And no one can say that Cliff, himself, was not a serious grouse hunter.

Cliff is 93 and he hunted grouse from the time he was a young man until he was past 84. On his last hunt he fell among the rocks and had to hobble back on an improvised crutch. That winter he slipped on ice while feeding his 17 dogs, mostly strays, and broke a leg. A neighbor, attracted by Cliff's red hunting cap, found him lying there and got help. The surgeon, after reducing the fracture, said that Cliff

had the leg muscles of a 40-year-old man. If any single factor contributed to his excellent condition I would guess it was grouse hunting.

I first saw Cliff Springer when my father and I stayed at his old stone Youghiogheny House in Somerfield on fishing trips. (Youghiogheny is an Indian word for "water from high ground.") Cliff ran the hotel from a rocking chair on the veranda, where he sat with his feet on the rail and watched a leisurely 30-mile-per-hour world go by on the old National Pike. The floor of that veranda was alternate cherry and ash boards scrubbed gleaming clean and there was a one-story wing I wasn't allowed to enter, which emitted pleasant yeasty smells and quiet, orderly voices, for Cliff Springer put up with no nonsense. It was on the bar, according to Cliff's son Wright, that grouse were laid out to be counted, accompanied by stories of the day's hunt.

Photo of Setters

Over the mantel in the musty-smelling lobby hung an enlarged photograph of three orange-and-white setters—Frank and Beauty and one that remains unnamed in my mind—probably progenitors of Cliff's setter Bud, and across the room, a photograph of Cliff's father holding a string of small-mouthed bass. There was a parlor with a big carved-legged square grand piano and a print of an Edmund Osthaus painting of a Count Noble setter, and behind this room the dining room was quiet and redolent of chicken dinners. The upstairs bedrooms had creaky mattresses and the straw matting on the floor felt cool and ridged to my bare feet, and there was fog outside the windows when we got up in the mornings to go fishing.

Until I got to know Cliff well he seemed taciturn, rarely speaking other than to keep Wright stepping with orders delivered in the tone he used for Bud when Bud ventured too far off the flagstones onto the Pike. Wright,

who at that age seemed much younger than I, scalded and plucked the chickens for the chicken-and-waffle dinners and at the other end of the line scraped chicken bones into a bucket and carried them to Bud. Bud must have had a special kind of setter intestines, for in spite of this diet he lived to be 17.

When Wright was older I occasionally hunted grouse with him on the river hills. If anyone had grouse hunting bred into him it was Wright, but where Cliff was deliberate and accurate, Wright was impulsive. Any bird was a shot and he fired at some I don't see how he could have seen.

The old stone Youghiogheny House was built in 1816 by the masons who built the stone bridge over the river. The inn was a stage stop and the stable still had cobble floors when I knew it. Along with other hunters, Cliff's shooting cronies made the hotel their headquarters — Marshall Bell, Cliff Budd, and Joel Stonerod of Pittsburgh, Jake Kromer of Greensburg, Dr. McKennan from "little" Washington. I think all of these are gone. Like the old hotel and the stone bridge and Somerfield are gone or

FORTY YEARS AGO a No. 6 shot pellet ricocheted from a maple branch and lodged under Cliff's eye. It's still there.





NOW 93, CLIFF SPRINGER HUNTED grouse for some 70 seasons, a span that few, if any, living hunters can match.

under the Youghiogheny Dam, except that when the flood-control dam is lowered the old bridge shows itself like an apparition under the water.

Cliff moved to Addison up on the ridge and maintained solitary quarters, which became a sort of gun club when Wright and his friends arrived for grouse season. Cliff recounted his stories of hunting the river hills; of coveys of 30 grouse on "Puzzly Run" and Winding Ridge; of grouse feeding on "sink field" (cinquefoil) and getting intoxicated with crops full of fermenting grapes. Cliff didn't like to eat grouse—"I've cleaned too many and it spoiled my taste for them."

Waited for Right Weather

It was at this time that I got to know Cliff Springer best and shot with him one season. It gave me an insight into why some hunters are more successful than others. Instead of hunting early in the season when most of us develop frustrations, Cliff waited until the leaves were down and cold weather had set in. Even then there

was no use hunting if the wind was blowing a certain direction or if snow had not begun to "break up." His idea of a grouse dog was close and plodding, investigating every brush pile while Cliff "guarded for the dog." Cliff advised getting up to a point without delay—a good axiom—but he walked leisurely, his gaze sweeping the cover from side to side without turning his head, gun cradled across his left elbow, right arm hanging loosely. It didn't look like an alert position from which to shoot but many old-time wing shots were deliberate, letting the bird get under way instead of blasting off while it was close. Nass Buckingham recommended carrying the gun with the stock under the wrist and forearm in a horizontal plane, necessitating a delay in mounting as the gun was turned. I knew one man who said he forced himself to count to three before shooting (no mention of how fast!).

I have memories of those hunts with Cliff, the Yough describing a sweeping curve below, the hills across the river

a pattern of tree trunks with diagonal strokes for shadows, and wherever there were grapevines it was a good chance we would find grouse. If we flushed one from rhododendron (Cliff called it "laurel") we could expect it in rhododendron at the end of a logical grouse flight.

Cliff and I were using litter brothers—my setter Ruff and Skipper, who belonged to Wright. I remember one hunt up White's Creek near the Maryland line with hills so steep it was easier to sit and slide down than to try to remain upright. Instead of scrambling up and down those mountainsides, Cliff hunted the hollows and ravines, working to the tops on a gradual contour. When a grouse flushed he wasn't winded and when his 20-gauge cracked it usually meant a bird.

Swing and Jerk

Cliff told me he liked to swing with the bird and "give a little jerk ahead just as you fire," which is a version of the fast swing-through. In spite of legends, the man has not lived who never missed a grouse but I suspect Cliff has missed as few as any gunner. He shot a Parker—one of six he and his shooting friends ordered at the same time.

There is sound reason why the old-timers were often good shots, for the way to be a brilliant wing shot is to shoot a lot of birds. In those days waterfowlers were notorious for unreasonable bags; old men tell me about wild turkeys they shot—four and five at a time—of kills of 40 quail in a day. One gunner described a hunt on Allegheny Mountain in the early part of the century when he shot 14 grouse, making the excuse, "Needless to say there was no bag limit in those days"—famous last words for more than one covert. These rugged types are survivors of another age and, like an old

gun scarred from numberless seasons in rough cover, I wouldn't have them different, with their memories and positive notions and all their personal quirks. There may not have been a law, and the game seemed to be there just for them to take, but along with their skillful gun handling and devotion to the sport, where was the individual sense of enough?

Within my own concepts of shooting I would like to emulate Cliff Springer as an outstanding grouse shot, and also to hunt until nearly 90. He used to speak of the benefits of walking over rugged grouse terrain—"good for the kidneys"—but it is probably more. He is one of those fortunate men blessed with large-bore arteries and keen eyesight.

Cliff now lives with his daughter and son-in-law in Pittsburgh but I found them at their Addison house in September, a pleasant time to talk to a very old hunter. We sat on the porch with the leaves in early color and looked at the Parker and talked of old Bud—"Bud made you hit them. If you missed he just sat and looked at you." Cliff described a shot 40 years ago when a pellet ricocheted from a maple branch and lodged under his eye. It's still there and felt like a No. 6 to my touch.

Cliff's companion now is plump little Sallie, about 11 and no gun dog, but she made certain my two setters didn't get too close to Cliff. Somewhere in the distance behind our conversation, Route 40 hummed much louder than the lazy sounds of Somerfield's shady street and the old Youghioghenny House. Those are ghosts now, under water, but not the river hills and not the grouse. And not the man. Tall and lean at 93, I suspect Cliff Springer will make at least 100—if giving up grouse hunting doesn't shorten his life.

If You've Had Bad Luck . . .

A cup of dried mustard mixed with a bucket of warm water will remove skunk odor from a car.



SNAP—

Another Braggin' Dog

By Bob Latimer

AFTER BROWNIE was gone, I was interested in getting another dog. Hadn't found anything that suited both my fancy and pocketbook, when my brother Jim contacted me saying that Elmer Pillings, a Game Commission employe, of near Philipsburg, had a big pointer that was in need of a new home. Don't remember where Elmer got him or why he wanted to dispose of him, but anyhow, Jim shipped him to me. He was about a year old and hadn't been handled at all; at least he didn't act so when he arrived.

This dog was big and strong. Lemon and white, with a tail as sharp as a darning needle and a broad flat head, he was a good looking dog. He was litter registered, and back ways that great pointer Commanche Frank appeared, so I registered him as Latimer's Commanche Frank—and called him Snap for short. He would eat anything that was put in front of him, the only dog I ever saw that liked sauerkraut. In regards to his appetite, he reminded me somewhat of Jake Mauk. Someone asked Jake one time what food he liked the best. Jake answered that he couldn't think of anything in the food line that he preferred, but that he liked it *all*.

I yard broke him till he responded well to the commands "Heel," "Charge," and "Whoa"—as long as he was *close*. He didn't need the command, "Hie on." All you had to do on that was to let him go! When I first put him down in the open, he would ramble like an errin' husband, as Nash Buckingham would say. Maybe it was wrong to choke him down to woodcock and grouse size. The strength he had and the way he'd slash a field

would have made him a great dog for horseback quail hunting. Fast and rough as he was, he didn't seem to overrun his nose—it was a dandy!

At any rate, I had him, and wanting to hunt woodcock with him, it became apparent that I had quite a job on my hands. The country didn't seem big enough to suit him and he would really tear things up in woodcock cover. He liked woodcock and would hold his points staunchly—but it was sometimes in the patch ahead of the one I was hunting. Tried about everything. A check cord dragging was always tangled up, and hanging a chain on him seemed to work about the same.

As I stated above, had him so he understood "Whoa" and he would stop when he thought I was close to him. If he thought he was far enough away, his ears didn't seem worth a hoot. When I could get to him and would trim him, he'd take it all in fun. In fact, after he got a trimming, if you didn't watch yourself he would likely jump up and try to lick you in the face! It has been said many times that nothing will enlarge one's vocabulary faster than packing horses for a living and I am inclined to think that's true, but one dog—Snap—did quite well for me. Had about given up in ever being able to handle this dog the way I wanted to hunt him, when I happened to think of a slingshot. Don't remember who it was, but someone once told me he had been able to greatly improve a dog's hearing by use of a slingshot. What you did was load it with about a half-dozen BBs and apply them to the rear end of the dog when he didn't seem to hear.

Well, I made a good slingshot and

got a supply of BBs. Soon found it's not so easy to load when one is trying to keep close enough in heavy cover to reach the dog. But I became quite good at it! I couldn't hit him every time I tried, but you could tell when you did—he'd flinch and tuck his hind-quarters up almost to his chin. You can believe it or not, but it surely did help his hearing a lot! It wasn't long till I didn't even have to load the slingshot, just snapping it did the trick. Finally, all I had to do when he would start to get breechy, was to take it out of my hip pocket and wave it around. He got the message.

Young Man's Dog

One time Supervisor John Ross, Geo. Dieffenderfer and I were up to Bradford County to help "Nim" Case about something or other. Nim was then the Bradford County Game Protector. It was during bird season, so we had our guns along and Snap too. After we had finished whatever we had to do, Nim told us if we'd stay over that night he would show us some Game Lands the next day where there was enough grouse to make it worth while.

This met with everyone's approval, as Nim was always good company and Mrs. Case had anyone I knew beat a country mile with her fried chicken. Can't remember just how we did get to these Game Lands the next morning, but can picture the area and think I could find it yet. This was at the time that I hadn't been able to control this dog as well as I wanted to and was still hunting with the chain dragging. It was this day that he found he could avoid sore legs by loping with his head to one side, so the chain didn't bump him. This tickled Mr. Ross a lot. Mr. Ross hadn't hunted over Snap before and had asked me what he was like. Not wanting to go out on a limb too far, I merely said, "He can find them and will stand, but he's a young man's dog."

We hunted a wooded area of some

size on those Game Lands and killed three or four grouse, though it was one of those days that they were hard to find. Finally, we came to some old fallow fields next to a farm. We found a bunch of ringnecks using there and we had several races to keep up with Snap, when he would road a bird up one of the washed gullies till he could get it to hold. Mr. Ross wasn't very long legged, but he could paddle right along and was there with me a couple times when the rooster was flushed and got in on the shooting. He was quite enthusiastic about Snap and his work. We had a good day and killed enough birds, and were quite tired when it was over. Coming home that night, he laughed and said, "I know now what you meant when you said he's a young man's dog!"

There were two things Snap needed: a *boss* and *lots* of work. When I was getting ready to go in the service in 1942, I wanted to let someone have him that would handle him. Francis McCarty of Hillsgrove, a good friend of mine, knew the dog and would fill the bill. Francis agreed to take him for the duration and if for any reason I didn't come back, the dog was to be his. A couple years later Snap got distemper. Mrs. Latimer took him to Dr. Ross, who fixed him up, but it proved later on that the distemper had injured his nose. When I came home in 1946, Snap looked fine and acted as if he remembered me. When I started to work him toward fall, the damage to his nose was apparent. At times it was as good as ever, but other times he would bump birds without knowing they were there till they flushed. Can see him yet when he would do this. He looked confused and acted as if he hated it.

In 1947, Snap developed cancer and upon Dr. Ross' advice, had him put to sleep. Though he didn't live to be too old, as dogs go, he did a lot of living in his time. Snap was *all* dog and there were few dull moments for those of us who hunted over him.

Grist From the Indian Mill

By Albert G. Shimmel

BOWL-SHAPED CAVITIES IN ROCKS, such as this one, often are known as corn or hominy mills; more accurately, they are Indian mills.

I DO NOT KNOW when the trail was made, but I'm certain it was long ago. It winds down through the hardwoods where decayed stumps are eloquent reminders of the past, when giant pines once formed a canopy so dense that only an occasional shaft of light could find an opening to the forest floor. A belt of low blueberry bushes marks the margin of the ancient lake that almost filled the basin of the high plateau before the outlet stream cut through. Here the trail ceases its meandering and becomes a compass line that leads down to a spring. The water, cold as frosted steel, boils up through clean sand.

I cup my hand to drink. A small trout darts away. I mark its hide by the small scarlet fin that quivers below the trailing stands of fountain moss. I turn again. My gaze is caught by a dark piece of stone, half buried in the tumbling sand. Even as my fingers close, I know it for a piece of flint. It is not native here but brought from far away. In times long past, some human hand had pressure chipped it to a cutting edge. Perhaps the owner lost it when he stooped to drink.

Pennsylvania in pre-Colonial times was covered by a web of Indian trails. Some were by the waterways, while others followed ridges or crossed mountain gaps from one watershed to another. Lesser paths led to hidden coves where small groups of inter-related families had their semi-permanent dwellings. There they made small clearings and practiced a crude agriculture. Beans, squash, sunflowers and corn were cultivated.

From these semi-permanent locations they made seasonal journeys to temporary camps in order to harvest natural foods. Blueberries, cranberries, shad berries, wild plums, walnuts, chestnuts, hickory nuts and acorns were gathered and stored against famine times.

Along these trails an easily recognized and enduring artifact is common. By some mistaken information these bowl-shaped cavities became known as corn or hominy mills. The truth is that they preceded the cultivation of corn. They are more accurately called Indian mills.

The fact that many of these mills were located at some distance from land that was even remotely suited to

cultivation was somewhat of a puzzle until it became evident that the original use was to reduce acorns and other mast to a coarse meal. A study reveals that they were located in groves of hardwoods.

Indian mills are depressions in stones in which food was ground or pounded as a part of its preparation for human consumption. These depressions ranged in size from four to 18 inches in diameter and were two to 10 inches deep. Generally, they were saucer-shaped, but occasionally they were wider at the bottom than at the top. A hammerstone or pestle of hard wood was used to pound or grind food. Occasionally, two or more mills were found in the same stone.

How was the Indian mill formed? So far as can be determined, no record has been made of actual construction. We can only speculate. Their general shape leaves little doubt that they were shaped by grinding or percussion or perhaps a combination of both. Without metal tools it would require considerable time and patience to shape such a cavity. This would be more difficult if the hammerstone were of the same density as the material to be shaped.

Tools for Shaping

Perhaps we have a clue in the number of spherical stones found by archaeologists among other artifacts. These balls were composed largely of native iron. Although mixed with sandstone they are dense, heavy and very hard. Some authorities ascribe a religious significance to them, linking their red or red-brown color with the sacred symbols of the natives. The shape and hardness of these iron balls would qualify them as logical tools with which to shape these mills. A certain amount of religious ceremony most certainly accompanied such an important undertaking. The speculator could be correct on both counts.

While the mills had varied uses, including the production of flour from

corn, dried berries, maple sugar or sunflower seeds, they also were used to compound mixtures of dried meat and other edibles in preparation for cooking or storage. That much of the Indian's food was prepared in this manner is indicated by the fact that many of their skeletons, discovered by archaeologists and anthropologists, have worn and abraded teeth.

Staff of Life

To modern man, the thought of eating acorns never occurs. To some ancient peoples of Europe and America, they formed the staff of life. Even the sweetest of acorns have enough tannic acid to make them distasteful. This bitter quality is due to tannin.

Preparation of the acorn is simple. After they have been shelled they are placed in the mill and reduced to a coarse meal. Grass is placed in a basket and the meal poured in. The basket is placed so that water will percolate through it, leaching out the water-soluble tannic acid. The result is a sweet nut-flavored meal. It is then air dried and stored for future use.

The meal was boiled into a mush, mixed with meat or dried berries and eaten as a staple. Occasionally, it was mixed with fat and baked in the form of a cake. It was superior to white bread, nutritionally. It contained a protein content of not less than 11 percent, fat eight percent, carbohydrates 1½ percent and a caloric value of about 1800 calories to the pound. Ordinary white bread contains about 1200 calories.

From their semi-permanent camps, Indians made pilgrimages (within the boundaries of the tribal territory) to tap the maples and make sugar. Often they tapped the hickories and birches and made sugar from their sap. They knew where the beds of potter's clay outcropped and visited them to gather raw material. Pottery shards were common around the village sites and were often discovered in the proximity of a mill.

To the uninitiated the idea of going in search of Indian artifacts seems as futile as trying to find the proverbial "needle in a haystack." As in other hunting, there is an art in knowing where to look.

First clues are often found where spring runs have their confluence with larger creeks and rivers. Fresh, clean water was as essential to these native Americans as it is to us. Many camps were located on a gentle rise of ground near drinking water. Gravel piles left by spring freshets at the mouth of a brook will often contain projectile points, flakings and pottery shards. Freshly tilled soil along the bottomlands is a rich source of tangible clues to early occupants. The best time to search is just after a field dries following a shower. Often a clean-washed artifact will catch the eye when otherwise the dust would hide it from sight.

Perhaps the most productive areas are found under rock shelters adjacent to major waterways. Many of these locations are waiting exploration.

Occasionally, artifacts will be discovered in the most unexpected places. A small boy turned up a fine projectile point among a grove of oaks while overturning stones in search of ants. A cache of 61 points was discovered when a weeding tool, used to remove dandelions from a lawn, grated on a stone. All 61 points were packed together in a space about a foot square and only a few inches below the surface.

Report Sites

A single specimen, or even a collection of artifacts, has little if any value unless the exact location of their origin and the circumstances under which they were collected is known. The amateur collector contributes to the knowledge of Indian cultures chiefly by locating and reporting productive sites for the trained archaeologist to investigate. I feel it is permissible for the amateur to do a

preliminary investigation, including a small cross trench digging. He must work carefully and keep accurate reports of his findings. Should the site prove productive it should be accurately located on a geological survey map, the site photographed, a complete listing made of all artifacts, in-



THIS LARGE Indian mill, located near Osceola Mills, was partly destroyed by stone cutters who apparently didn't know its value as an artifact.

cluding descriptions, measurements, and if possible the origin of all lithic (stone) material. Reports of new sites should be made to state or local historical societies, local museums or the nearest university.

Once a site is located, further collecting should be carried on by trained archaeologists who can dig, catalog and evaluate your find. A certain secrecy is necessary. Pot diggings by curio seekers may destroy the value of the site and overlook much material that could add to our knowledge of the early inhabitants of the area.

The sportsman can make a valuable contribution to the total knowledge of pre-Colonial Indian populations. Their constant search for food and raw materials brought practically every area under their scrutiny. The inventory of artifacts that have been found and catalogued to date doubtless are meager compared with those that



Photo by Tom Schreffler

OTHER INDIAN artifacts include projectile points, drills and scrapers. Untrained persons should not despoil sites, but rather report them to historical societies or museums.

await discovery. When we consider that some of these objects date back 7000 to 9000 years we begin to realize their importance.

To the casual collector, almost any pointed artifact is an "arrowhead." The archaeologist, for convenience, classifies hafted objects which were used primarily for piercing as "projectile points." They were thrown, used for thrusting or launched from a bow or spear thrower. Other artifacts include drills, scrapers, net sinkers,

firestones, cleavers, celts, axes, adzes, hammerstones, choppers and pounders. Since we have neither visual nor written records, the use of some of these objects can only be inferred.

Methods of producing artifacts from natural lithic material include chipping, flaking, pounding and grinding. Many are bifacially shaped, while others show work on a single face.

Flaking produces a serrated cutting edge characterized by fine scale-like fractures. These are produced when pressure is applied with a splinter of strong bone or the tine of a deer antler. This pressure is applied at an acute angle to cause a scale to break away. By working each side alternately, an efficient cutting edge is produced.

Quartz Cutters

Most lithic artifacts that have a cutting edge were manufactured from some form of quartz. Flint was most commonly used, followed in decreasing quantities by chert, chalcedony and jasper. Steatite was a favored material for elbow pipes and cooking pots. These were crafted by earving.

Artifacts found in the vicinity of Indian mills seem to indicate that the area was somewhat of a social center. Pottery shards, beads, projectile points and flint chippings show that both men and women frequented the area.

What is the urge that prompts us in our search? To find a piece of flint and trace the chippings made by craftsman's hands, long dead, awakens a nostalgia for the past. We yearn to sit beside the ancient fires and watch the flames. The smell of smoke is incense. These tie us to our other selves, and link us with those dim and half-forgotten things we know yet do not understand.

Low Percentage

One of nature's freaks, the antlered doe, turns up once in every 3000 antlered bucks checked by biologists, but its antlers usually are still in velvet while those of the bucks are mature, polished racks.

Opportunist—YES, Picky—NO!

By Arnold H. Hayden

PGC Wildlife Biologist

AS PART OF a continuing study of the wild turkey in Pennsylvania, food and feeding habits have been under investigation. What is the turkey's main bill of fare? How dependent are turkeys on the acorn or beechnut crop? Answers to these and other questions are slowly coming to light. With increasing knowledge concerning this aspect of the turkey's life history, the Game Commission is in a better position to manage this valuable resource.

Wild turkey food habits vary considerably from southern Pennsylvania to the northern border, depending upon the type of forest present. Our southern turkey range supports what is known as an oak-hickory forest, while in northern portions of the state a northern hardwood forest (beech-maple-cherry) predominates. These two forest types overlap in central Pennsylvania, creating a transition zone or mixture of oaks and northern hardwoods. In this region, generally speaking, the various oaks dominate the dry southern exposures and the northern hardwoods are found on moist north-facing slopes.

The food habits of the turkey vary from year to year, depending upon seed production and the availability of animal and insect life. For example, in our southern turkey range there may be a heavy acorn crop one year and practically none the next. During years of acorn scarcity the birds merely shift to other types of food which are more abundant and meet their nutritional requirements. These annual shifts to abundant food supplies are largely responsible for turkeys being on a particular ridge one hunting season and frequenting a creek bottom the following fall. Very often the presence or absence of turkey flocks is

misinterpreted by the novice turkey hunter as indicative of good or poor turkey populations.

The food a turkey ingests is stored for a short period of time in a crop, or gizzard, located under the skin in front of the "wishbone." It then passes through the digestive system. At various times of the year these crops are collected by wildlife biologists and examined to determine the kinds and amounts of plant and animal matter present.

Fall Hunting Season Food Habits

Southern Pennsylvania (oak-hickory forest): The study revealed that the turkey's diet in the southern range consists of approximately 93 percent plant matter, while animal life contributes 7 percent of the volume consumed. Acorns (all species) are the most important single item that a wild turkey feeds on during the fall months. Acorns account for 29 percent of all plant matter consumed. Dogwood berries are heavily utilized during years of acorn failure. Agricultural grains contribute 43 percent of the plant matter consumed. Other important turkey foods are wild grapes, ash seeds, grass blades, red clover leaves, witchhazel seed and crabgrass seed. Some of these species are more important one year than the next, depending on their abundance and whether an acorn crop was produced.

Grasshoppers account for up to 68 percent of the animal life consumed during the hunting season. March fly larvae (*Bibio* sp.), millipedes, snails, spiders, crickets, stinkbugs, and walking sticks are other important animal life eaten.

Northcentral Pennsylvania (transition zone): The intermingling of plant species associated with the oak-hickory



and northern hardwood types increases the number of food-producing trees and shrubs in the northcentral range. More than 100 species of plants have been recorded from crops analyzed from this region.

Fall Diet

The fall hunting season diet of the turkey consists of approximately 90 percent plant matter and 10 percent animal life. Acorns are the most important food in this region and account for 31 percent of the plant diet. Agricultural grains are less important in this region because of fewer farms and more extensive forests. When a mast failure occurs among oak species, turkeys seek out oats, corn, wild grapes, ash seeds, beechnuts, hop hornbeam and blue beech seeds, and dogwood berries. The percent of beechnuts in turkey crops increased in the transition zone and rank sixth on the list of food items.

Animal life makes up about 10 percent of the turkey's fall diet. Of the animal life consumed, grasshoppers account for 66 percent. March fly larvae made up 29 percent of the fall diet. Crickets, millipedes, caterpillars and praying mantis egg cases made up much of the remaining part of the animal diet.

Northern Range (beech-maple-cherry): The fall diet of the turkey in northern hardwood areas consists of some 97 percent plant matter and 3 percent animal life.

When available, the beechnut is the number one turkey food. Thirty-nine percent of the fall diet consists of these triangular nuts. During years when beechnuts are very abundant, the percentage rises to 75-96 percent of the total volume consumed. Spring beauty tubers (*Claytonia virginica*), and princess pine fruiting heads (*Lycopodium sp.*) become very important when beech trees fail to produce a nut crop. These two species are a constant food source and abundance does not vary much from year to year.

Black cherry seeds and spring beauty tubers are found in conjunction with each other and the combination provides an excellent food source. Blue-beech or water beech and white ash seed are heavily utilized.

Animal life accounts for 3 percent of the fall diet in the northern range. March fly larvae make up 57 percent of the animal diet during the fall hunting season. The volume of these inch-long larvae rises considerably in crop during years when beechnuts are abundant. Turkeys also feed considerably on adult cankerworms. On warm fall days, thousands of small tan moths can be seen flying and clinging to the bark of trees. On closer examination, the flightless adult female can be seen in great numbers crawling around on the ground. The turkey feeds on the flightless adult female.

Millipedes and snails are found in small quantities in most turkey crops. Grasshoppers are a primary insect in turkey crops in other regions of the state, but rank only a poor sixth in the northern range. Early frost and colder weather reduces the abundance of this insect and makes them unavailable to the turkey. The red back salamander which is found under the moist leaf litter in northern hardwood areas ranked fourth on the list in the fall animal diet.

Winter Food Habits

Southern Pennsylvania: Acorns remain the number one food in the southern range during the winter months (Kozicky, 1942). Wild grapes which dry on the vines rank second. Corn commonly occurs as a turkey food, due to winter feeding programs and cornfields adjacent to wooded areas. Grass and sedge leaves are also important winter foods despite periodic snowfalls. As might be expected, animal life is insignificant during the winter.

Northern Pennsylvania: There is a vast difference in food habits in northern Pennsylvania from fall to winter.

The availability of seeds is greatly reduced because of snow cover. When energy expended by a turkey in scratching for seeds beneath snow exceeds that energy received from seeds obtained, it will begin looking to other sources of food. Food items which are found above the snow cover and in non-frozen spring seeps are heavily utilized.

Sensitive fern fruiting heads which stick up through the snow rank first as a turkey food during the winter. Corn found at winter feeding stations ranks second. Often these feeding stations, when placed near spring seeps which normally winter turkey flocks, will be heavily used. Turkeys will also utilize buds. Beech and hop hornbeam buds account for 21 percent of the wild turkey's winter menu. Other items which are commonly eaten during periods of deep snow are burdock seed, white ash seed and apples. Apples dry on the trees and serve as an excellent source of food during deep snow.

Spring seeps are heavily utilized during extended periods of snow cover. Fern fronds, grass blades and rootlets, mosses, aquatic insects, and seeds are commonly found in these spring runs. Watercress grows in seep areas in many sections of the Commonwealth and is utilized by turkeys.

Observations indicate beechnuts and white ash seed often continue to fall onto the snow throughout much of December and January. Blackberries which dry on the canes and princess pine fruiting heads are also important winter foods in northern hardwood regions. Animal life in the diet is insignificant during the winter.

Spring Food Habits

Southern Pennsylvania: Acorns remain available to the wild turkey during the spring and account for 63 percent of the diet. Approximately 18 percent is made up of succulent grass and sedge leaves which become available during the warm spring weather.

Corn is still utilized but in small quantities.

Northern Pennsylvania: In northern hardwood areas there is little information available on spring food habits of the turkey. Observations indicate heavy utilization of spring beauty tubers, black cherry pits, and succulent grasses and forbs.

Summer Food Habits

Southern turkey range: Grass blades are important foods during the summer months. Fruits such as huckleberry, wild grapes, and black cherry become important in the diet as they begin ripening in midsummer. Acorns rank fourth as a food during the summer (Kozicky, 1942). Grasses and sedges account for 8 percent of the summer diet. Animal life accounted for 7 percent of the summer food habits.

Northern turkey range: Grass and sedge seeds are important items as turkey foods during the summer in northern Pennsylvania. Fruits such as black cherry, blueberries, and raspberries are readily eaten. Red maple seeds which ripen during late June are utilized. Mushrooms are also eaten during the late summer.

Thirty-seven percent of the total volume of food consumed during the summer consisted of animal life. Crickets and grasshoppers are the most abundant insect in the crop sacks and accounted for 85 percent of the animal life consumed. Other prominent items in the food habits were snails, ants, and many species of *Diptera* larvae (fly).

Summary

Food habit studies indicate that the wild turkey varies its diet to conform to the most abundant food. The ability of turkey to change its food habits strongly indicates that food is rarely a limiting factor in Pennsylvania. To date, there is no evidence to indicate that all trees, shrubs, etc., producing turkey food undergo simultaneous failures.



Photo by Leonard Lee Rue, III

In years when the oaks fail to yield a crop of acorns, turkey food habits show a corresponding increase in the utilization of other foods such as witch-hazel seed or dogwood berries. A failure of beechnuts in northern Pennsylvania precipitates an increased utilization of spring beauty tubers and princess pine fruiting heads. Agricultural grains are heavily utilized throughout the Commonwealth. Consumption of insects by wild turkeys is highest during the summer and tapers off to a trace during the winter. Everything a turkey eats cannot be considered food. Besides grit, pieces of aluminum, 22-caliber shells, tinfoil, and marbles have been found in crops.

REFERENCE

Kozicky, E. L., 1942. Pennsylvania wild turkey food habits based on droppings analysis. *GAME NEWS*, 13 (8): 10-11, 28-29, 31.

Fall Turkey Food in Pennsylvania

	South	Northcentral	North
Acorns	29	31	
Corn	28	16	6
Dogwood berries ..	12		
Wheat	7	3	
Wild grapes	6	8	
Barley	4		
Buckwheat	4	3	
Oats		12	13
Witchhazel seeds ..		6	
Beechnuts		5	39
Ash seeds		3	5
Spring beauty tubers			14
Princess pine			
fruiting heads			5
Black cherry			5
Blue beech seeds ..			5
Miscellaneous	10	13	8

Primary Insects Consumed During Fall

Grasshoppers 3-68%, March fly larvae 12-57%, Millipedes 4-8%, Snails 1-3%, Fall canker worms 1-10%.

Winter Turkey Food in Pennsylvania

	South	North
Acorns	54	
Wild grapes	20	
Corn	18	18
Grass and sedge leaves	3	4
Sensitive fern fruit heads		20
Beech buds		16
Burdock seeds		9
Hop hornbeam buds		5
Moss		4
Ferns		4
Apple pulp		3
Miscellaneous	5	17

Summer Turkey Food in Pennsylvania

	South	North*
Grass and sedge leaves	28	
Huckleberries	15	
Wild grapes	12	
Acorns	11	
Foxtail grass seed	4	
Black cherries	4	8
Grass seed	3	63
Insects	7	
Red maple seeds		5
Mushrooms		5
Sedge seeds		4
Violet seeds		4
Miscellaneous	16	

* In the northern area of the state, during the summer turkey food consisted of 63% plants and 37% animal life during this study period. The animal life was made up of the following: Crickets 46%, Grasshoppers 40%, Snails 4%, Ants 3%, Fly larvae (primarily Diptera) 3%, and Miscellaneous 4%.



Reading the Landscape

By Joseph B. C. White

HAVE YOU EVER wandered through the woods all morning and wondered whether the whole place was not completely devoid of life? A lot of people think this way; we've all heard them proclaim the absence of game or the fact that "There's no living creature in those hills."

Actually, in the outdoors you can nearly always find some sort of life within a step or two, and since many creatures depend on each other for food, it's well to look around carefully to determine these relationships.

Almost every experienced woodsman will suggest to the beginner that he walk quietly and slowly. Better yet, stand still. Walk with the eyes. Let your gaze wander around stealthily, searching for shapes that look out of place or forms that don't quite make sense. What looks like a stump may turn out to be a turkey or a bear—though most of the time it turns out to be a stump! But that's the fun of reading the landscape.

If you pull up that stump and sit on it awhile, the whole forest floor can come alive with meaning—if you'll only look around. Signs are everywhere. High above in the fork of a black birch you may see the claw marks of a black bear. On the forest

floor are the obvious tracks of deer and the widely-scattered scratchings of the wild turkey. Perhaps you'll see the food pellets of a great horned owl—undigested clumps of hair, fur and bone in clumps the size of your thumb. Fox, bear, elk, deer, raccoon, wild turkey, grouse—all can be fairly easily identified from droppings—a "science" known as scatology.

See What Want to See

Experienced naturalists often observe that people see only what they want to see. One showed a farmer a handful of Indian arrowheads and spear points found in the field the farmer was plowing. The farmer was amazed. Since then he looks around as he plows and has found hundreds of Indian relics.

Youngsters frequently question a photographer as he concentrates on a flower or curious bark formation. "What are you photographing?" they ask, not remembering that some photographs do not have human beings smiling at the camera. Yet it is with children that observation can become most acute. Most of you have noticed how quickly a young boy becomes an expert at spotting deer at night after he has been shown how. Teaching people to see the wonders of the outdoors is most rewarding, for many people who do not see are, in reality, "blind" to thousands of interesting sights, sounds and smells.

More than anything else, food is the key to seeing wild creatures. Anyone who has a bird feeder knows that. It is logical, then, to look for game and other wild creatures near food sources. For birds, this means the wild grape tangles, the concentrations of seed weeds, grain fields, and berry bushes. Look for bears in old apple orchards, near garbage dumps, and in berry fields in season. You'll find the groundhog near rich grasses and clovers, and who knows about the crow—you'll find him anywhere from a heap of carrion to a spot just yards behind a farmer's

cornplanter!

Trails will often give away the presence of wild animals. Deer trails become almost obvious highways in the woods, here angling up and around a hill, there passing along the spine of a ridge. Bear trails will almost always lead over "saddles," those low spots in ridges. The rabbit's run in fields and meadowlands is remarkably clear.

Right along with food as an attraction for wildlife is water. This all must have in one way or another. Birds may get enough from dew-covered leaves and dripping branches, but most of the larger animals will head for a waterhole sometime during the day, usually after feeding. Streams, lakes and ponds, then become ideal watching places—which explains why they've been the choice of hunters since primitive times.

In or near the water is other life too, frogs, toads, snakes, fish, waterfowl, crayfish, mussels and hundreds of smaller creatures.

Role of Predator

For a little more exciting game of reading landscape, place yourself in the role of a predator such as a horned owl, hawk or fox. What would you eat? Where would you usually find your prey? If you were the prey, where would you hide? Answer these questions, and soon you'll be seeing the woods in a new and exciting light, better able to see for having taken the trouble to understand the needs and natural movements of the animals as they go about the serious business of staying alive.

All of these observations can be made quickly and in all seasons. Tracks may appear in mud, snow or ice. The height of an antler rub may tell whether deer or elk has scraped a sapling. Droppings almost always give away clues to diet and food; and shelter, water and accustomed trails will help the beginner learn that seeing in the woods is a different matter than it appears at first glance.



THREE FINE BUCKS, above, were taken in 1937. Fox trapping, middle top, near Pine Grove Furnace in late '30s.



Looking

PENNSYLVANIA GAME month, as is described elsewhere in the magazines go. We're glad to hear from you thanks to your support. A lot of people, during the Depression, World War I and II, were all were involved in or affected by one or another. Still are. But they're in control, and what most of us want is that we could go back to leading a life involving around hunting and fishing. NEWS has been all these years waiting to come. With the grouse hunting, a beagle's music as he brings out a pair of our socks by the raucous sound of open-mouthed, breath-held to the adas in the moonlight . . . the dawn with the wool-elad white are some moments encountered in NEWS. Stay with us for the



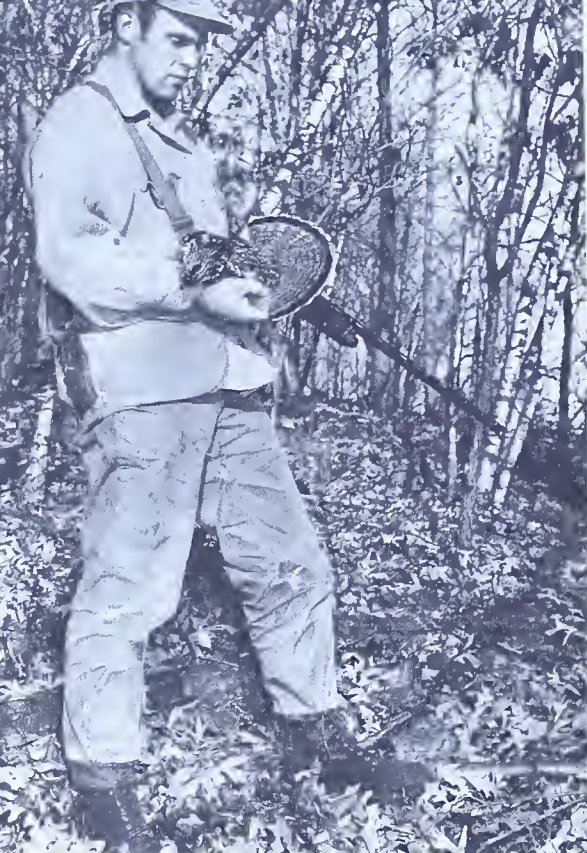


ward . . .

ts beginnings 40 years ago this
 is issue. That's a long time, as
 e is going stronger than ever,
 those four decades, including
 War, Korea and Vietnam. We
 and other happenings, one way
 onal events, out of our direct
 do was get them over with so
 life. Which is to say, one re-
 ors. And that's where GAME
 efully will be for many years
 st-gold coverts . . . listening to
 l around . . . being scared out
 oted-out ringneck . . . listening
 ous honking of shadowy Can-
 ne brittle cold of a December
 rs. Here, on these four pages,
 the past 40 years of GAME
 l you?—Bob Bell

ABOVE, A TYPICAL "return-from-deer camp" scene in the early '30s. At bottom center, a PGC employee taking photographs of Hawk Mountain, 1936.





AL PROUTY'S tremendous buck, taken in 1949. Below left, C. E. Logue sets beaver trap; bottom, Pennsylvania deer hunters of early 1900s.





PENNSYLVANIA'S LARGEST recorded bear—633 lbs.—taken in Pike County by Norman Coykendale, Milford, in 1923. Top right, tremendous set of elk antlers taken years ago, history unknown. Such trophies as these are unforgettable, but most hunters are satisfied to hike home in the evening after a day in good grouse, pheasant, squirrel or rabbit cover.



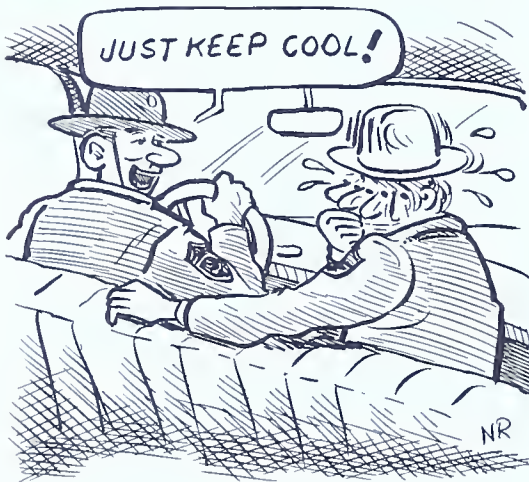


FIELD NOTES



Real Sportsmen

McKEAN COUNTY—I have four active sportsmen's clubs in my district and all have offered their meeting rooms and any assistance that I may need for Hunter Safety courses. I hope all the other District Game Protectors have this kind of cooperation. Thank you all very much.—District Game Protector D. A. McDowell, Smethport.



We'd Have Walked!

JEFFERSON COUNTY—Don't get me wrong—I enjoy the company of DGP George Miller. But a recent trip to the Division office was an exception. This particular trip was about the most uncomfortable one I have experienced. George was driving and I was about to turn the heat on, as it was chilly, when he gave me this: "Don't turn that on. I had a rattlesnake in a cardboard box last night and it got out. If he gets warm he is likely to start crawling around in here." For 40 some miles, I died a little every mile!—District Game Protector H. Stankewich, Valier.

But Where Was the Git-Tar?

PHILADELPHIA COUNTY—While Waterways Patrolmen Rotchford and Schilling and I were checking a small stocked lake in Ambler, which was closed prior to the opening of trout season, we saw three lads walk up on the other side of the lake carrying a guitar case. I looked at the two other officers and made some remark about "the old fishing rod in the guitar case trick." They both agreed that this was pretty farfetched, but after observing the boys' actions we decided it was worth looking into. After seeing our uniforms, the boys had begun a quick retreat, but we caught up to them. After a little argument that they didn't have to open the case, they consented to let us look. Officer Rotchford opened the case and there, bigger than life, was an air rifle. This brought casual "I told you so" glances from both Waterways Patrolmen and put the heat on me to pick it up here. I began rooting around in the case and finally came up with the fishing gear under the air rifle. The moral of this story is: He who laughs last, laughs loudest. — District Game Protector H. T. Nolf, Teleford.

Quick Study

WASHINGTON COUNTY—While in town recently I noticed a young fellow looking at me with a perplexed expression. I struck up a conversation with him. He wanted to know what the responsibilities of Game Commission employees were, and I tried to explain them to him. I did not get very far before he stated, "I know what you are—the *forest fuzz!*"—Land Manager G. T. Szilvasi, Washington.

Undesirable

ERIE COUNTY—In this occupation one runs across some interesting and sometimes strange things. For example, recently while patrolling for illegal bird hunting along the Penn Central tracks accompanied by U. S. Game Agent Sam Miller, I saw an unusual weed along the side of the road. It was dead, but the seed pod attracted my attention. I brought a section home and after much difficulty determined that it was from the Jimson weed, a relative stranger in these parts that's usually associated with the South and West. This weed is very poisonous and let us hope that it does not get started here. — District Game Protector R. W. Meyer, Fairview.

Pity, Please

CLEARFIELD COUNTY—It is that time of the year again when nature puts on a new face and the young of many wildlife species are being born. Many people seeing these young in the absence of their mother are under the misconception that the youngsters have been abandoned. Well-meaning people who pick up these wildlife babies actually reduce their chance of survival. I wish we could convince people once and for all to leave wild animals in the wild, because if they keep bringing them to me, my house will look more like a nursery than a home.—District Game Protector C. L. Keller, Clearfield.

This Is Communication?

BUCKS COUNTY—Telephone rings. DGP: "Hello." Voice: "Do you know the name of the Waterways Patrolman around here? He's a red-haired fella." DGP: "The Waterways Patrolman for Bucks County is Jay Johnson in New Hope. His number is 862-5169. He doesn't have red hair though." Voice (Pause): "Oh, I guess you don't know the one around here, the red-haired fella?"—District Game Protector W. J. Lockett, Perkasio.



Welcome to the Club!

CUMBERLAND COUNTY — The following are some of the rather amusing incidents that I have encountered on being in my new district only two months: I was mistaken for the meter reader on one occasion; a gentleman called me and started telling me about the "little brats" in his backyard, and upon further questioning I found out that the little brats he was talking about were rabbits; a lady who was getting ready to plant her garden wanted some advice on how to stop the deer from stepping on her squash as they crossed over to eat the sweet corn; a preacher smashed into the back of my brand-new state car; at first the people around my neighborhood were quite puzzled about who the new neighbor was with the yellow patches on his shoulders; and while waiting for traffic to clear at a stop sign one evening, a gentleman, thinking I was a State Trooper, came running up to tell me a car refueling at a nearby gas station had 1968 Oregon license plates displayed. — District Game Protector J. F. Filkosky, Mechanicsburg.

Probably

LACKAWANNA COUNTY — The way some deer racks shrank during our measuring session, the owners must have measured them earlier with a fisherman's ruler! — District Game Protector T. C. Wylie, Moscow.

Blessing and Problem

ADAMS COUNTY—Pennsylvanians seem to take the abundance of game in this state for granted. On a recent assignment that took me through the state of Maryland into Washington, D. C., and back, I did not see one live or dead piece of game along the highway. Upon returning to Pennsylvania, I noted the carcasses of nine ringnecks along the first two miles of highway.—District Game Protector J. J. Troutman, New Oxford.



Grateful Drake

CLEARFIELD COUNTY—On a recent fishing trip, Deputy Jim Shaffer encountered a mallard drake with about 30 feet of fishing line protruding from the duck's bill and wrapped thoroughly around his body. The duck was so tangled in the line that Jim was able to capture him and relieve his problem somewhat by unwrapping the monofilament and cutting it just inside the drake's bill. Setting the duck back on the water, Jim started to walk away, hoping nature would take over now and possibly dissolve anything else the duck may have swallowed. The only trouble was, wherever the helpful deputy went, the grateful duck would follow. Up the stream . . . down the stream. Jim finally had to quit fishing and leave the area in order to lose his newly found friend.—District Game Protector G. J. Zeidler, Rockton.

White What?

SCHUYLKILL COUNTY—Recently I picked up an albino button buck killed on the highway in Pine Grove Township. While driving through Pine Grove with the albino deer on the bumper rack of the car, a motorist halted me to relate his story. He said, "I'm the person that killed that animal. I called the farmer in the area and told him that I struck and killed one of his white goats on the highway." About two weeks later I picked up an albino doe, near the same location as the button buck. I wonder if this was the mother of the farmer's "white goat." — District Game Protector F. Mason Spancake, Pine Grove.

Smart Squirrel

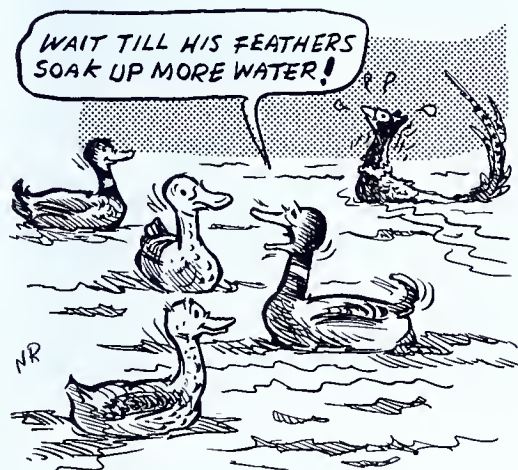
LUZERNE COUNTY—We all have heard people remark about "dumb" animals. Many of these supposedly more intelligent people could take a lesson from a squirrel I saw recently. It was sitting on top of one of the Lions Club's disposal cans in Conyngham schoolyard, shelling a nut with the shells falling into the can. When we ride through the countryside, we somehow can't help wondering which level of animal world practices the greater cleanliness. — District Game Protector R. W. Nolf, Conyngham.

Biology Course?

BUTLER COUNTY—One night recently, Constable Dillaman and I came across some Slippery Rock College boys as they returned to their car from a nearby pond about 1:30 a.m. They had a bag with them about half full of what they claimed to be frogs, but which turned out to be toads. Since toads aren't edible, I've been wondering what college boys would do with several hundred of them on campus? Perhaps some coed could enlighten me.—District Game Protector N. Weston, Boyers.

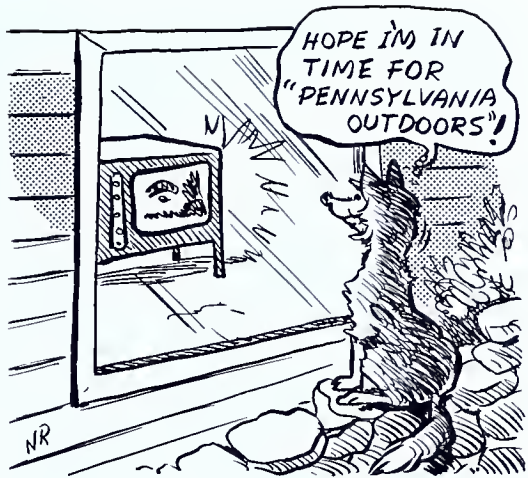
What's in a Title?

WESTMORELAND COUNTY—While attending a Kiski Sportsmen's Club meeting, a member questioned why there were no rabbits. I said that I had counted a number of them on the place where I was living, and with what I had seen over my whole district, there seemed to be a good many. He then questioned me about both ringneck and deer. My answer was the same. I told him I had seen a herd of 10 deer in the field in front of my house, and that I'd heard a number of ringnecks. To which he replied. "They must have heard you just moved in and they all came to your place for protection."—District Game Protector S. E. Lockerman, Murrysville.



A Duck Is a Duck Is a Rooster?

SNYDER COUNTY—Early in April following a rise in the Susquehanna River, Deputy Fisher and I took a boat ride to look over the many species of waterfowl migrating through the area. Near the center of the river a flock of ducks jumped up, but one remained. We went over to investigate, and this "duck" turned out to be a cock pheasant. We gave him a lift to shore, for he was really pooped. Next time I bet he sticks to flying.—District Game Protector K. W. Dale, Middleburg.



Just Another Critic

BERKS COUNTY—While talking to a farmer in my district the other day, he related the following incident: He and his wife were watching television when they heard a curious barking outside their living room window. Sneaking to the window and peering outside, they noticed a large gray fox sitting on a stone wall staring in the window, apparently watching television.—District Game Protector J. K. Weaver, Kutztown.

Got the Answer

CENTRE COUNTY — At a recent meeting of the Tussey Mountain 4-H Wildlife Club, I brought up this question to some of the members: "Why do you kids enjoy being a part of this group and work so hard on its conservation programs?" Their answer was brief and to the point, "We love the out-of-doors and love to hunt." A poll was taken of the 16 members present that were old enough to hunt, and the results are as follows: 13 antlerless deer, 36 rabbits, 88 squirrels, 3 grouse, 11 pheasants, one turkey and one dove. Not bad for kids, or grown-ups for that matter. A more important statistic is that none of the club members had gotten into any trouble that Mom or Dad couldn't straighten out with a trip to the old woodshed.—District Game Protector J. L. Wiker, Pennsylvania Furnace.

But Where's the Gander?

BRADFORD COUNTY—One foggy morning my wife answered the door to a man who excitedly told her there was a goose in the "gander." My wife hadn't the faintest idea what the man was talking about, and since I was not at home she referred him to Charlie Fox, a deputy who lives up the street. We later found out that some geese, which apparently had been flying for some time, had seen the light at the high school and thinking it must be a "pond" came down and caused quite a commotion among the school children. By the time Charlie got to the school, all but two had taken off. He thought these must be injured, and tried to catch them, but one flew away. Finally, Charlie caught the remaining one, which was honking to beat the band, and seeing that this one was not injured, took the goose out of town and released it.—District Game Protector W. A. Bower, Troy.



Elementary Deduction, J.A.

BLAIR COUNTY—In April I received a phone call reporting a very strange and vicious animal under a porch in Catherine Township. I asked the caller why she thought it was vicious and she said that anything with that many teeth had to be mean. I removed an opossum from under her porch.—District Game Protector J. A. Lukas, Hollidaysburg.

Could Have Waved, Anyway

CUMBERLAND COUNTY—Recently I was awakened about 1 a.m. by a telephone call from the Carlisle State Police Barracks. The officer on duty informed me that a deer had been hit and killed by a car at Doubling Gap, and that the man who had hit it would wait until someone came to pick it up. I sleepily dressed and proceeded to Doubling Gap which is approximately 20 miles from my headquarters. I arrived just in time to see the deer, which had been lying alongside of the road, stand up and trot off into the woods.—District Game Protector D. R. Smith, Shippensburg.

Don't Wait

CARBON COUNTY—Several of my neighboring officers and I have encountered poor attendance in Hunter Safety courses held recently. I hope the youngsters needing a course to qualify for a hunting license are not waiting until the last minute, expecting to receive instruction the night before the season opens. I urge the parents of these first-time hunters to see that their children avail themselves of the first opportunity and avoid the last-minute rush.—District Game Protector C. Burkholder, Weatherly.

A Real Help

HUNTINGDON COUNTY—In April I delivered seedlings to several schools and also picked up hunter safety cards and exams. While visiting these institutions I noted that assembly programs and classroom instruction on wildlife conservation were being presented by teachers at two of the three schools visited. These presentations were not in conjunction with any pre-arranged programs by any conservation officer. It is gratifying to note that more teachers are conducting wildlife conservation programs on their own.—District Game Protector R. D. Furry, Huntingdon.



CONSERVATION NEWS



Edwin J. Brooks



Brigadier General Nicholas Biddle

Brooks Replaces Biddle on Game Commission

EDWIN J. BROOKS, Lansdale business executive, has replaced Brigadier General Nicholas Biddle, Bethayres, on the Pennsylvania Game Commission.

Brooks, president of E. J. Brooks Company, was nominated for the position in February by Governor Raymond P. Shafer, and the nomination was confirmed recently by the Pennsylvania Senate.

General Biddle had completed more than 34 consecutive years of service as a member of the Commission, an all-time record.

Game Commissioners' terms run for eight years. There are eight Commissioners, all of whom serve without pay in the policy-making posts.

Brooks, a realtor, outdoorsman and conservationist, is an advocate of the restoration and preservation of wildlife

in Pennsylvania. He is active in sportsmen's, civic and business groups.

The new Commissioner is a member of the Bucks County Fish and Game Association, the Lansdale Sportsmen's Club, the Ruffed Grouse Society of America and the Lycoming Hunting and Fishing Club. Included in his interests is the Resica Falls Federation of the Boy Scouts of America. Brooks is a past chairman of a group which oversees the 3200-acre reservation and youth facility in the Poconos.

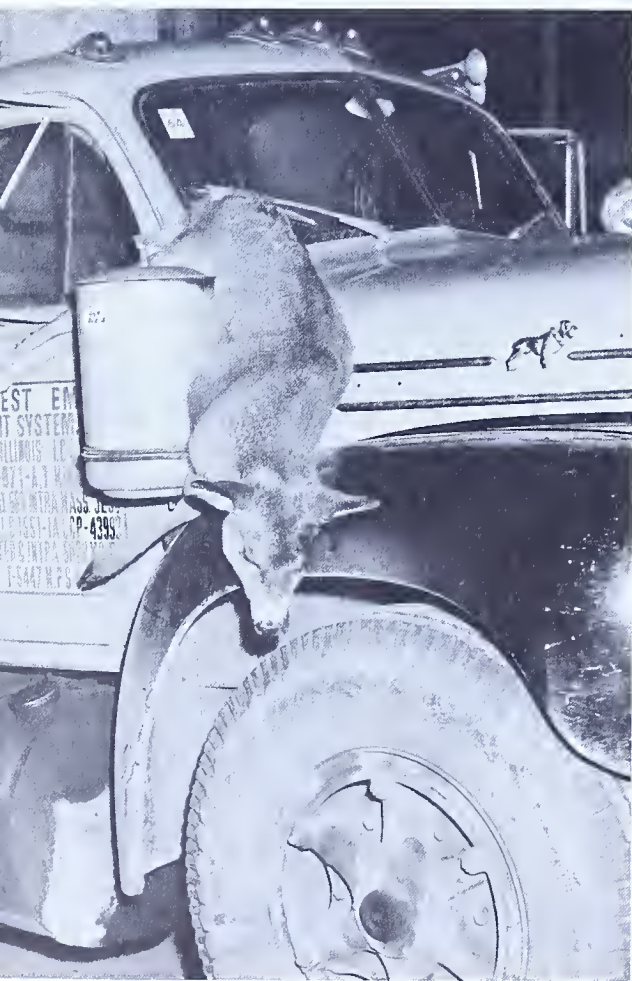
During General Biddle's many years as a member of the Game Commission, he served twice as president of the group, from 1935 until 1940 and from 1955 until 1957. He also served as vice-president of the body from 1953 until 1955 and during 1963.

General Biddle is credited with helping launch the Game Commis-

sion's farm-game program, which has opened more than 1.6 million acres of privately-owned farmland to public hunting. His efforts played an important part in having the dove placed on the list of Pennsylvania game birds. For many years General Biddle served as chairman of the Commission's conservation education and public relations committee.

In 1963, a bronze tablet commemorating General Biddle's years of service as a Commissioner, his efforts in promoting conservation education and his interest in providing public hunting areas was unveiled on State Game Lands 145 near Mt. Gretna, Lebanon County. General Biddle had been instrumental in acquiring the tract from the Department of Military Affairs.

What Happens to Deer Killed on Pennsylvania Highways?



PENNSYLVANIA'S highway-killed deer are utilized whenever possible, in accordance with the Game Law. Those which are unusable are buried at designated sites. Over 21,000 deer were killed on the state's highways in 1968.

A RECENT Pennsylvania Game Commission announcement that over 21,000 deer were killed when struck by vehicles on the state's highways last year has prompted inquiries concerning the disposition of the animals.

Game Commission Law Enforcement Chief James A. Brown said that whitetails killed on highways fall into one of three classifications: fit for human consumption, unfit for human consumption but usable, and unfit for consumption and unusable.

Deer which are fit for consumption are delivered by Game Protectors to charitable institutions or other charitable agencies, in accordance with provisions of the Game Law.

Brown said that deer which are unfit for human consumption but are usable may be given to hide and tallow companies, public fish hatcheries, fish hatcheries supported by sportsmen's organizations, animal shelters and zoos maintained by public funds and/or animal shelters maintained by donations. Permits are issued by the Game Commission specifying how the carcass is to be utilized within a certain time period.

Deer which are unfit for consumption and unusable are buried at designated sites under regulations established by the Pennsylvania Department of Health.

Pennsylvania—No. 1 Hunting State!

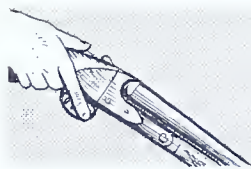
Number of Paid Hunting License Holders, License Sales and Cost to Hunters Fiscal Year 1968

State	Paid Hunting License Holders 1/	Resident Hunting Licenses, Tags, Per- mits and Stamps Issued	Non-Resident Hunting Licenses, Tags, Per- mits and Stamps Issued	Total Hunt- ing Licenses, Tags, Per- mits and Stamps Issued /2	Gross Cost to Hunters
Alabama	357,766	350,206	7,560	357,766	\$ 896,530.60
Alaska	37,930	39,977	9,199	49,176	708,297.00
Arizona	149,844	305,871	16,813	322,684	1,241,924.50
Arkansas	273,902	258,613	15,289	273,902	1,273,711.50
California	755,137	1,459,874	1,962	1,461,836	4,388,080.00
Colorado	243,452	327,926	75,746	403,672	5,180,946.00
Connecticut	71,915	70,667	1,248	71,915	248,263.38
Delaware	24,783	24,068	715	24,783	88,264.10
Florida	223,435	220,665	2,770	223,435	1,198,409.75
Georgia	323,347	318,571	4,776	323,347	1,076,220.12
Hawaii	8,212	7,965	247	8,212	60,989.91
Idaho	191,684	383,793	47,122	430,915	1,577,658.95
Illinois	491,725	484,501	7,224	491,725	1,691,178.25
Indiana	438,475	486,095	3,534	489,629	1,279,051.00
Iowa	306,823	295,276	11,547	306,823	1,049,373.20
Kansas	221,724	204,437	17,287	221,724	869,451.00
Kentucky	253,173	249,355	3,818	253,173	1,066,284.25
Louisiana	317,737	413,961	8,422	422,383	876,456.00
Maine	203,284	168,003	35,464	203,467	1,611,570.13
Maryland	191,359	282,116	8,369	290,485	1,065,504.00
Massachusetts	138,015	136,380	1,635	138,015	777,740.50
Michigan	903,545	1,240,949	20,490	1,261,439	5,557,463.00
Minnesota	473,402	623,480	2,781	626,261	2,588,096.57
Mississippi	241,859	356,433	20,797	377,230	1,091,792.00
Missouri	427,015	578,894	15,078	593,972	2,644,103.00
Montana	153,506	229,695	14,966	244,661	1,593,774.50
Nebraska	197,020	330,391	52,251	382,642	1,755,804.75
Nevada	61,640	97,623	12,025	109,648	679,370.00
New Hampshire	93,146	75,095	24,134	99,229	823,540.00
New Jersey	181,871	218,883	3,641	222,524	1,052,803.00
New Mexico	107,614	113,759	7,999	121,758	1,093,231.75
New York	731,601	1,135,819	60,167	1,195,986	4,217,859.88
North Carolina	437,039	483,631	8,075	491,706	1,657,651.30
North Dakota	83,417	192,841	10,630	203,471	611,247.50
Ohio	490,223	516,710	2,254	518,964	2,256,696.60
Oklahoma	195,304	252,347	4,045	256,392	921,233.00
Oregon	359,011	718,287	6,371	724,658	2,371,993.00
Pennsylvania	1,062,121	1,539,952	80,481	1,620,433	7,455,375.40
Rhode Island	13,434	13,129	305	13,434	41,033.00
South Carolina	210,468	201,969	8,499	210,468	727,778.60
South Dakota	152,002	285,723	34,817	320,540	1,042,284.40
Tennessee	423,410	566,467	19,479	585,946	1,637,934.00
Texas	688,337	869,826	10,110	879,936	2,290,597.50
Utah	203,834	211,546	18,585	230,131	1,807,071.50
Vermont	144,689	110,423	49,758	160,181	1,081,383.12
Virginia	375,548	700,383	47,604	747,987	1,864,695.00
Washington	326,748	655,003	2,343	657,346	2,856,438.50
West Virginia	227,968	210,978	17,090	228,068	907,372.00
Wisconsin	597,119	791,716	22,048	813,764	4,987,796.00
Wyoming	144,657	129,084	62,411	191,495	2,838,466.00
TOTALS 3/	14,931,270	19,939,356	919,981	20,859,397	\$8,680,789.01

1/ A paid license holder is one individual regardless of the number of licenses he may purchase. Data certified by state fish and game departments.

2/ Period covered not identical to period covered by certification for all states.

3/ Persons who hunted in more than one state are counted in each state where they hunted. Therefore, this figure exceeds the total number of license holders in the United States.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



PGC Photo by Lowell E. Bittner

DGP MASON SPANCAKE PRESENTS Hunter Safety Instructor brassard to Principal Robert Long as Gloria Bogash and Jack Oakley watch.

Hunter Safety Elementary Curriculum

A FIREARM-HUNTER Safety program was implemented in the elementary curriculum of the Blue Mountain School District during the 1968-69 school year with much success and enthusiasm on the part of both the instructors and the pupils.

Much controversy has arisen over gun registration and gun control at both the federal and state levels but little attention has been afforded the crux—the firearm safety itself. In years past, many safety programs have become a part of the school programs,

but firearm safety has not been one of them. It is suspected that this particular phase of safety is as important as other safety subjects, including driver-training at the secondary level. This reasoning is brought about by the assumption that more boys and girls will come into contact with firearms, at least at an earlier age, than with vehicles.

The primary purpose of the firearm-hunter safety course is firearm safety with the hunter certificate of competency as a secondary purpose.

The end results of such a course are intangible, since there is no way to determine the number of lives saved or injuries prevented.

The firearm-hunter safety course was first discussed between Superintendent of Blue Mountain Schools Ray A. Kurtz, District Game Protectors Lowell Bittner and Mason Spancake, and Robert W. Long, Elementary Principal of Blue Mountain School District. This took place during the spring of 1968. (Both Game Protectors then worked out of the Game Commission's Southeast Division. Bittner is now Conservation Information Assistant for the same division.)

Blue Mountain School District, with its interest in innovation at all levels of the curriculum, gave the "green light" to the Elementary Principal, who immediately held discussions with the two elementary Physical Education instructors, Miss Gloria Bogosh and John Oakley. Both of these persons are qualified hunter safety instructors, as is Long.

A course of study was developed along the guidelines of the Pennsylvania Game Commission's and National Rifle Association's hunter safety courses, but was extended to include seven hours of instruction rather than the usual four hours. Two half-hour classes a week were held for a period of seven weeks during January and February. A tape of approximately six minutes was recorded by the Elementary Principal, introducing the program to each of the eight sections of sixth grade pupils (264 boys and girls),

with an additional 10-minute taped interview between Principal Long and Game Protector Spancake concerning questions and game laws verbalized at the pupils' level. Audio-visual materials (16mm films, charts, etc.) were received from Spancake through Bittner. Cooperation between Blue Mountain School District and the Pennsylvania Game Commission officers was splendid.

Some of the areas discussed by the instructors included: use, care and storage of guns and ammunition; proper gun handling at home and in the fields; transporting and storing firearms; courtesy and sportsmanship.

The facilities of the elementary library and the services and encouragement of the librarian helped the pupils discover the wonderful world of books containing stories about hunting, guns, camping, conservation, dogs, wildlife and pioneer days, as well as other related stories and research of interest to outdoor people.

Unfortunately, range practice could not be included in the course due to facility limitations.

The hunter examination was administered to the boys and girls, with each receiving a certificate of competency showing successful completion in safe handling of firearms and bows and arrows.

Perhaps others should give some thought to firearm safety programs for youngsters, instead of thoughtlessly advocating gun controls and legislation. After all, guns don't hurt people—it's people who hurt people with guns.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.





HAWKS

*across
Pennsylvania*

By Ron Jenkins

Red-Shouldered Hawk

(*Buteo lineatus*)

ANOTHER LARGE HAWK of the genus *Buteo*, and the final bird in this series, Pennsylvania's red-shouldered hawk is perhaps one of the most beautifully marked of all our winged predators.

An adult red-shouldered hawk is almost as large as a redtail, but lacks the overall bulk of that slightly larger cousin. Plumage is also different, and usually an observer can pick out the reddish-brown and white-barred markings on the front of an adult red-shouldered hawk.

Their backs are dark brownish-black or gray-brown with light feather edges. The tail of an adult red-shouldered hawk is black or charcoal gray with three or four distinct narrow white bands, as opposed to the wide white and black bands of the broad-wing.

Red-shouldered hawks do have a red shoulder. Coverlet feathers over the base of the primaries on each wing are reddish-brown, and, with folded wings, give the bird the appearance of having red shoulders. These colors add much to the beauty of this fine hawk and help distinguish him as one of our real friends in nature.

Just as the broad-wing frequents deeper woods, the red-shouldered hawk likewise is a woods dweller, but is capable of taking larger prey than his smaller cousin. These overlapping

territories and similarities of habit serve a definite purpose, for each bird is capable of and responsible for maintaining that particular balance in nature for which it was especially designed.

Red-shouldered hawks build large stick nests, often in a hemlock tree and usually with slightly smaller twigs than the redtail. The nest cup is lined with fresh sprigs from the nest tree. These are often changed by the adults as the eggs are being incubated.

Eggs usually number four or five. They are oval in shape and have a beautiful pale greenish or bluish-white color with chestnut or reddish-brown blotches.

The young hatch in about four weeks and are ready to leave the nest some six weeks later. Young red-shouldered hawks are fed hawk normal fare—mice, frogs, snakes, large insects, etc.

Immature red-shouldered hawks resemble young redtails, and are all brownish above, with brown and white vertical streaking below. They do, however, have the reddish-brown shoulder patch which is apparent to the close observer.

Red-shouldered hawks make up a large portion of our fall migration flights, although some do stay for the entire winter where there is enough food. Early March brings the return

of these beautiful hawks, and should you be near to a prospective nesting site, you might thrill to their piercing call.

Aerial displays can be spectacular, with one of the adults going through a series of dips and rises on partly opened wings — similar to a roller coaster ride through the air.

The great number of mice eaten makes the red-shouldered hawk one of our most beneficial species. Provide him with enough elbow room and he will enrich your time in the outdoors.

In its entirety, this series has been merely a refresher on identification, with some rather brief notes about habits and values of Pennsylvania's

winged predators. All of this same information—and much more—can be obtained by a few visits to your nearest library and some trips afield.

However, until man is willing to believe the printed word, willing to put some trust in the efforts of conservationists and let these birds pass by when carrying a firearm, then all the books, study, schools, and common sense become valueless.

Be willing to learn. Find out what makes these raptors so necessary, and pass the word. Education about all of our wildlife will help all of us to preserve Pennsylvania as a great source of natural wealth living side by side with modern industry.

Book Review . . .

Flintlock Pistols

For some three centuries, flintlock firearms gave good service all over the world. Soldiers, hunters, pioneers and others who needed a firearm got surprisingly good results from a design which today seems hopelessly out of date. However, the flintlock was a great advance over preceding designs, and of such arms the pistols are the most interesting to many. This monograph by Wilkinson, secretary of the British Arms and Armour Society, may be considered an illustrated guide to flintlock pistols from the 17th to the 19th centuries. After a general outline of their development, he covers in detail a considerable number of these pistols—multiple- as well as single-barrel models. Sixty-seven photos and illustrations, plus descriptive text, make up the bulk of the work, with a good appendix that lists gunsmiths of the era and a bibliography of books pertaining to the subject. An excellent reference work. (*Flintlock Pistols* by F. Wilkinson, Stackpole, Cameron and Kelker Streets, Harrisburg, Pa., 1968. 75 pp., \$4.95.)

GAME NEWS Contributors Cited

A GAME NEWS article has been cited for distinguished achievement in journalism in the ninth annual Golden Quill Awards Competition sponsored by the Pittsburgh Press Club and Sigma Delta Chi, professional journalistic society. Outdoor writer Jim Hayes received the Gold Quill award for his article, "One Day in Cameron County," in the November, 1968, issue of GAME NEWS. Winners were announced at the Golden Quill Awards Banquet May 9 at the Pittsburgh Press Club.

Another GAME NEWS contributor, Steve Szalewicz, received an award for his column, "Sportsmen's Corner," in the *Franklin News Herald*. The outdoor writers won two of the three awards in the sports and recreation category. Entries were judged by the Pennsylvania State University School of Journalism.

Pack-in for a Change

By Les Rountree

"LET'S GET AWAY From It All" was the title of a popular song some years back. This might very well be the theme song for those couples and family camping groups that have tried the campground circuit for a number of years and now want to branch out on their own. No, I'm not suggesting that all campers forsake the organized campground and head for the uncharted boondocks at the very first opportunity. Primitive, "back-in" camping is not for everybody. Were it not for the more deluxe facilities available at today's public and private campgrounds, camping would most certainly not be the fast-growing recreation it is today. There is a group of people, however, that honestly wants to get away from the ordinary and, in the western states, the true wilderness areas are made to order for them. In fact, the only legal way of getting into some of the huge western reserves is by foot or horseback. If you are in splendid physical condition or a moderately good horseman, this is an experience that all serious campers should consider. The would-be isolationist can find things to his liking here in Pennsylvania but it takes a bit more doing. There are several ways to accomplish the feeling of being truly alone on a camping trip and one of them most certainly involves using the backpack.

Since building fires on state-owned land, except at regulated picnic and campgrounds, is forbidden, utilizing state land for backpacking trips involves some careful planning. The ideal way to do this is to lay out in front of you the county map of your choice, hopefully one that indicates trails and/or contours. Spend the first night at a state camping ground and plot your next day's walking course to the next state area. Unless you are a





NEW LIGHTWEIGHT GEAR MAKES IT possible for backpacker to assemble tent, sleeping bag and other necessities into small pack shown.

very experienced walker or hiker, make sure this first day's jaunt is no more than about five miles. Experienced hikers will scoff at this short distance, but desk- or car-bound legs will soon let their owner know of his inability to lug even a light pack over broken terrain for extended distances. Hikers who are really trailwise can easily tote a 65- or 70-lb. pack for long distances. The first-time packer should stick to under 25 lbs., with 20 being far more comfortable.

In many areas of Pennsylvania state parks are located a good day's hike from each other. If you are near some of these regions, you might find it a good idea to visit your starting and stopping points via automobile before you start out for real. As your walking ability and other skills develop, you'll want to lengthen the trips. It is sheer folly for non-walkers to make an overnight declaration that they're going to make a 15-mile hike the next day.

More than likely, they'll wind up far short of their destination with tired backs and sore feet, and have to set up an emergency camp at some spot which is less than satisfactory.

It is easy to see that in many areas of the state the one-stop walking trip can be easily expanded to cover several state parks. The area you cover is limited only by your time and stamina. It is interesting to note, however, that much of our heavily wooded state can be seen only by actually hoofing it. There isn't a county, with the exception of Philadelphia, that does not have a forested area ample enough to offer a good tiring walk.



The Allegheny National Forest in northwestern Pennsylvania, which takes in parts of Warren, McKean, Forest and Elk Counties, is another excellent region for the hiking camper. By leap-frogging from campground to campground, it's possible to make an entire hiking loop of this vast forest region, beginning at the Kinzua Dam, going through Cook Forest, home of the last big pine and hemlock timber in the state, and then hike all the way to the New York state border. A pretty ambitious journey, I'll guarantee, but one that holds a lot of promise. No, please don't write in for details about this particular trip. The fact is, I haven't taken it myself, but I certainly intend to very soon. Perhaps by the time this appears in print, I'll have made it and, if I do, I'll certainly give GAME NEWS readers a report.

Another way of accomplishing the alone-with-nature feeling is to do a bit of barnstorming among private landowners. Many individual farmers and corporations throughout the state own or control vast sections of wooded land. GAME NEWS has long recommended that the hunter make an effort to establish good relations with private landowners and it is no less advisable for the camper, particularly the backpacking camper. If you happen to see or know of an especially interesting piece of real estate that has the makings of a knapsack adventure, try to find out who owns it. I'd guess that the owner would be so pleasantly surprised at having someone request permission to use his land that your welcome would be assured. He may even tell you where the best camping spots might be and advise you where good drinking water is available. The person pulling a camper or driving a camper-laden pickup should also keep in mind the excellent locations available on private land. To try something different for a change, a knock on a farmer's door could well locate an ideal camping spot and develop a new friend. The acquaintance just might

produce a new hunting spot for next fall. But for gosh sakes, if you are granted permission to camp or hike on private land, don't abuse the privilege by marking your trail with candy wrappers and other civilized debris. That's the surest way in the world to foul it up for you or somebody else in the future.

I've mentioned in this column before that any camper about to embark on a new adventure or try a new piece of equipment should have a backyard milk-run. This procedure is doubly important in backpack camping. To my knowledge, the business of deciding what to carry in your pack has never been agreed upon by any two campers. There are some items, of course, that don't vary, like matches and a change of socks, but really, that's just about it. Without making apologies or too much explanation, here are the essentials that I like to see in a pack for one person.

One complete change of clothes.

One extra meal, regardless of how many days you expect to be on the trail.

Plenty of matches in waterproof containers.

A lightweight sleeping bag.

Nesting type cooking gear (issue Boy Scout is fine).

A plastic water canteen.

Canned Goods Out

I'll admit that's about as basic as you possibly can get. Of course, I didn't mention a knife, first-aid gear, or the actual food materials that one person should carry. This is subject to the whims of the individual. I have grown very partial to the dried food products which require only water to turn them into something quite edible. Canned goods are definitely out. They are much too heavy and there isn't any need to carry them—unless you just have to have a can of baked beans on a camping trip. Don't, under any circumstances, hit the trail with a hastily concocted pack that you



A FLOAT TRIP IS A DIFFERENT, and pleasing, method of seeing new areas seldom visited by the majority of campers.

haven't tried carrying around the lawn for at least a half-hour, or better yet, try it along some nearby country trail. If you're a city dweller, a few times around the nearest park will work as well. The neighbors and other onlookers will, of course, be sure you've lost a few of your marbles, but you'll save yourself much later backache.

Float Trip

Another excellent way to see some different country in a leisurely fashion and do some camping as well, is the float trip. Practically every section of Pennsylvania has a river or stream that can be navigated quite easily with a flat bottom john boat or canoe. I prefer the canoe, because they're a little lighter to manage, and I suppose I feel a little more like the last of the Mohawks as I slip through a tree-canopied section of water. As with the hiking camper, the same sort of pre-planning applies—pick your starting and stopping points allowing nine or

10 miles a day (going downstream, of course), and if possible scout out your starting and stopping points before you actually make the trip. If you have very small children in tow, the canoe or boat idea is quite a bit less taxing than lugging a pack. Not that the twelve-year-old is averse to carrying a light pack scaled down to his size, but he'll find the canoeing somewhat more exciting. By all means, check out the capacity of any craft you decide to use and don't get within 10 percent of its maximum load limit. Be sure to include life jackets for everyone on board regardless of their swimming capabilities. Select as much waterproof gear as you possibly can and, here again, the prepackaged foods are an ideal choice. They are usually put up in aluminum foil packages and if you do upset, they'll float and won't be harmed by the water.

The float trip can be made in conjunction with state camping areas since several of these are located on

navigable rivers or streams. Many more of the very choice camping sites are situated on private lands. A visit to your proposed docking area and camping location to obtain advance permission from the landowner to use it, is certainly to be advised. The Allegheny, Susquehanna, Juniata and Delaware Rivers all offer outstanding camp-float combinations. In addition to these major rivers, dozens of other streams in the Commonwealth are easily navigated with a lightweight canoe.

For the fisherman, of course, the built-in advantages of the floating-camping trip are obvious. A bit later on in the season, the hunter as well can visit areas seldom reached by other sportsmen. The advantage to the duck hunter is apparent, but the squirrel hunter can benefit just as much. River-bottom squirrel shooting can be very good indeed and, when you're in a canoe, the retrieving of the bushytail which happens to drop into the water is greatly simplified. Some deer hunters have made the float-and-camp trip a very big part of their operations. When the streams are not icebound, it can beat walking in.



ONE OF THE MOST satisfying aspects of backpacking is the knowledge that you're getting away from the crowds, back into the most unspoiled regions still left to nature lovers. And the time to learn to appreciate this is when you're young.

Book Review . . .

Discovering the Appalachians

The Appalachians stretch from New England down through Pennsylvania to the Georgia border, a vast region that encompasses many kinds of people, many kinds of terrain. Mountain peaks bulk high against the sky in some areas, while rolling hills and stream-cut gorges beckon elsewhere. Within the Appalachians are rich and poor, woodsmen and city folk, hunters and fishermen.

The author has seen and talked with all, and understood their ways. He knows the history of the region, its flora and fauna, its geology and folklore. He has immersed himself in knowledge of the Indians who dwelt here, their battlegrounds and their myths. He knows Boone's trails where highways stretch today, and he has rested by wilderness paths near-choked with wild-flowers. And even more important, he shows the reader how he too can visit and gain some understanding of this large, important area. An important—enchanting—book. (*Discovering the Appalachians*, by Thomas L. Connelly, Stackpole, Cameron and Kelker Streets, Harrisburg, Pa., 1969. 223 pp., \$7.95.)



SOME OF THE MORE THAN 2000 archers at the last Bow Hunters' Festival at Forksville. They didn't shoot at bullseyes.

The Two Ends of Archery

By Keith C. Schuyler

Photos by the Author

NORMALLY, the effort here is to inform or to entertain. To use the entire column for an editorial could be considered sneaky unless the reader was forewarned. You are forewarned.

The present status of archery in America is that of a growing giant who has physically outstripped his mental growth. Since Pennsylvania can rightly be considered the physical center, with over 128,000 bow hunters in 1968, it is here, in this state, that a hard look at what archery is today is in order.

The core of any activity is its organization. Yet, while archers are increasing in numbers at a phenomenal rate, organized archery has failed to keep pace. Last year the Pennsylvania State Archery Association became disassociated from the National Field Archery Association, retaining only

its affiliation with the National Archery Association. The squabble was primarily over a system of handicapping which was being imposed by the national organization. There is no intent here to take sides, but it should be obvious that this separation was a loss both to the state and to the national group.

In this writer's opinion, trouble started long ago on the day that the first distance was posted on target No. 1 on a field course somewhere in the United States. Since that day, organized archery has had problems and considerable confusion. The situation will improve only when it is recognized that there are but two practical ends in archery—target and field. Further, there are only two logical ways to shoot the bow—sight and instinctive. There, I've said it.

Although sights are not new in archery, their widespread use is a development of recent years. They have made possible some fantastic scores. Some hunting sights have been developed although they have limited use.

It has been said here before that the word instinctive is out of date and has properly been replaced by the term "bare-bow" shooting. However, its replacement has been justified only because the intermingling of sight-shooting rules with field shooting has made it an improper word to describe what is going on today. Consequently, use of the word "instinctive" here is deliberate and accurate. It describes the method of shooting when all distances are *unknown* on a field course.

Source of Wonderment

Some of the things which have come out of the spread between sight and instinctive shooting are a source of wonderment. So many ways have been developed to circumvent the intent of the bare-bow system that fair competition no longer is possible. All of the in-between methods are sight shooting of a sort.

The fellow who follows the intent of bare-bow shooting is no longer in competition. Generally, he must compete against those who shoot three fingers under, who count the spirals on their string serving to judge distance, who use a system of positions in relation to their bows, hands and anything else they can use to beat the rules. All of this is possible only because the distance to each target is posted for all to see. Except in the hunter's round, when stakes are sometimes placed before the shoot without distances marked, the system can be



TARGET SHOOTING, using special bows, intricate sights and selected arrows, is a fine sport in itself but contributes little toward hunting skills, Schuyler believes.

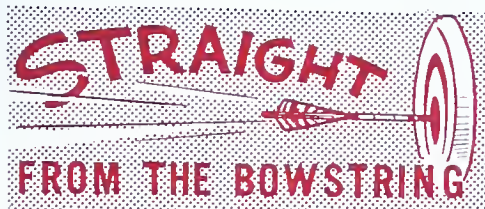
beat—and is. This completely defeats the purpose of changing the stakes.

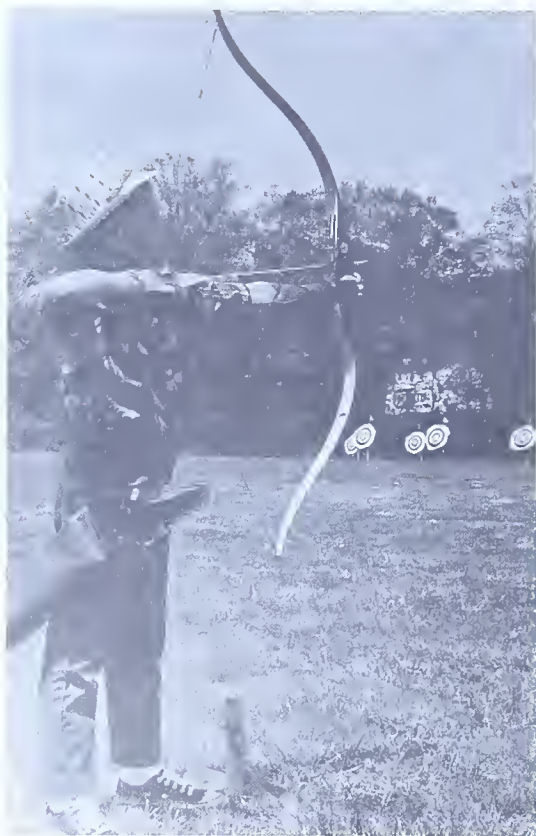
Only the Bow Hunter Division of the National Field Archery Association approximates natural hunting conditions on the field course. But distances are still posted.

Let's go back to the sight shooters. (Free style is a misleading title.) They have their individual problems trying to determine whether each new assist to pinpoint shooting should be permitted or outlawed. Amateurs are, generally speaking, governed by rules of the F.I.T.A. (Federation Internationale de Tir A L'Arc), the international body of archers. Advancements in archery have been slower in the countries from which we imported the sport. Consequently, rules have been written to keep Americans as much on a par as possible with the other countries. (Professionals have no such bounds.)

It isn't really difficult to regulate the ancient target sport of trying to place as many arrows as possible in the bullseye.

For the person who wants to enter archery through the target door, rules, equipment and systems are relatively





SOME SHOOTERS start out with sights, and they may never change, but most archers are hunters and they shoot instinctively. Can the two groups meet on common ground?

clear. Target shooting, both indoor and outdoor, where distances, targets and terrain are generally uniform, is a great sport. It is a part of archery which has a traditional and well established place. Let's keep it there!

Field ranges were originally developed to simulate hunting conditions. No more; no less. But enter the so-called free styler, the sight shooter. All the rules have been changed to accommodate the fellow who won't shoot without his sight, and he wants the field course to simulate as closely as possible a *target range*. The result has been to eliminate the instinctive shooter entirely—the fellow for whom the field course was established in the first place.

I'm not against sight shooters. Some of my best friends are sight shooters. If they want to use their sights on a

field range, more power to them. But let them shoot under conditions and with tackle which simulates hunting. Remove the distance markers; place the shooting stakes immediately before each sanctioned shoot. Let's put instinctive shooting back into archery.

Why? Well, I can give you over 128,000 reasons why right here in Pennsylvania. Let's get these gun-hunters-turned-archer-for-the-season out on the field range so that they can learn to shoot. They must shoot unknown distances at deer, so why take away the benefit of shooting on a field range by using yard markings? They won't have posted distances in hunting.

First Shot Instinctive

It is sometimes said, and rightly, that only the first shot at a target, if but one stake is used for all of the four shots, is truly instinctive, even if the distance is not marked. The shooter can make corrections based upon performance of the first arrow. However, if four shooting positions are staked out for each target or group of targets, even this criticism can be eliminated. Admittedly, this imposes more work on the small group in each club which does most of the chores. However, membership might pick up to provide a bigger group to put to work.

Some distances might be a bit far for the smaller target faces. Some could be so close as to make the shot a bit too easy on the larger faces. But since every archer shooting on that day would be required to shoot under the same conditions, final scores would reflect comparative skills for that day and for those distances.

What has held down participation in formalized archery is this very accent on scores shot as compared to perfect. This emphasis is fine in target archery, but it is not necessary in field archery. If we think back to why field courses were originally designed, we accept the handicaps of rough terrain, unknown distances and varied

natural backdrops for the targets. These are what make field shooting interesting and an excellent preparation for hunting.

Why sight shooters, who traditionally strive for six-golds on the regular target range, wish to impose the restrictions of a field course upon themselves, escapes me. Many of these sight shooters are hunters in season, and most will revert to a bare bow and truly instinctive shooting when they have a hunting license on their backs.

Host Needs Help

The great host of archers needs help. Only the relatively small nucleus of good and expert bowmen in organized archery are in a position to provide it. Yet this personal drive to get closer and closer to the perfect 560 on the field course, through any means possible, seems to be blinding them to the real need in field archery.

As another case in point, let's consider the better-than-average bowman who does right well on the target range. He is a sight shooter. He is also a hunter. He also likes to shoot the field course. But does he take his hunting bow and hunting-weight arrows with him? Not if he is average. He simply makes a few extra calibrations on his sight chart and hits the field course with his hardware and his *target* arrows. Then when hunting season comes along, he takes off the sight or picks up his separate hunting bow and hunting arrows and goes for deer.

And he wonders why he can't hit something as big as a deer when he shoots so well at a target.

Some are not the slightest bit interested in hunting with the bow. To them, the score is all-important. This is as it should be. However, it is time that the total organization of archery recognizes that bow hunters outnumber pure target archers many, many times over. Yet the accent in organized archery continues to be on score and score alone. Over 100,000 archers

in this state, taking a conservative estimate based on hunting license sales when compared to membership in organized archery, are standing on the sidelines.

It hasn't been so long ago that field courses first made their appearance in Pennsylvania. Roughly speaking, it was about twenty years ago and they came on strong with the advent of a special deer season for bow hunters in 1951. It was quite remarkable when the first local shooter broke the 200 mark. When scores went up to and over 300, it was thought that the limit had just about been reached. There was good reason for thinking so. Bows were still fairly primitive, Fiberglass arrows were just making their appearance in numbers, and aluminum arrows were rare or nonexistent. Distances to targets were not posted at the target stations although stakes were seldom changed.

We had a lot of fun back in those

WHEN YOUR TARGET appears like this one, who has time to ask, "What's the yardage?" and then set his sight, aim and release?





LAST SEASON, OVER 128,000 Pennsylvania bowmen took to the game field. Schuyler claims organized archery has failed to keep pace.

days. Practically everybody who shot the bow belonged to the local club. Many who had not shot at all joined so they could learn. There was widespread family participation. For the most part, each shooter competed against his last score or the other three archers shooting a round with him. Then came the system of classification. Far too many forgot their families and shot for score and score alone. Then came the marking of distances at the shooting stations and the real stampede for score was on.

Many of the old-timers dropped by the wayside. They were embarrassed to shoot against the high scores being posted on the club bulletin boards. For them, much of the fun had gone out of the sport. Today, there is so much written about systems, hardware and psychology that the average archer hides in his backyard. What he may not realize is that much of the gobble-de-gook that he reads one month, written by one of the "experts,"

is refuted in the next issue by another expert. Most of the refinements and the search for refinements are for the target archer. There is still room for the fellow who just wants to get good enough to go out and shoot a deer. Present tackle is adequate and relatively inexpensive. Most hunters don't want to spend the money for all the fancies that go into hardware.

If there are those who dispute the approach here, I suggest they check the annual Bow Hunters' Festival at Forksville. Well over 2000 shooters attend each year. There are no sanctioned competitions, no big prizes, no rules at all aside from those of common sense and safety. And sights are relatively rare.

There is plenty of room on the target line and on the field course. Many want to play both games. But, it is time that consideration is given to again *separating* these two ends of archery for the overall betterment of the sport.

YEAR OF THE BOW

By Keith C. Schuyler

ALTHOUGH Pennsylvania has long led the nation in hunting with the bow and arrow, and the Pennsylvania State Archery Association is among the most active in the nation, 1969 is really the Year of the Bow for the Commonwealth.

Biggest event will be the 25th World Archery Championship at Valley Forge State Park, August 13 to 20. This will be the first time that the world event has been brought to the United States. Some forty-five nations will vie for international honors on these dates.

To take advantage of facilities being set up for the World Tournament, the National Archery Association, Inc., of the United States, will hold the 85th NAA Annual Archery Championship Tournament immediately following the world championships. Dates are August 21-24. There will be events for men, women and youths. Consequently, immediately on the heels of the world tournament, archers will be assembling from every corner of the United States for the national event.

On June 14-15, the 2nd Annual United States Amateur Field Archery Championship, sponsored by the National Archery Association, was held on the range of York Archers, near York.

The button for the World Tournament shown is being used as a vehicle

to raise funds for team travel to the World Championships. It is evidence of a contribution and can be obtained from George Levitt, 2613 South Eleventh Avenue, Broadview, Ill. 60153. Or they can be obtained at the NAA office, 2833 Lincoln Highway East, Ronks, Pa. 17572.



For particulars on the NAA National, write to Edwin E. Choyce, 48 East Third Street, Lansdale, Pa. 19446.

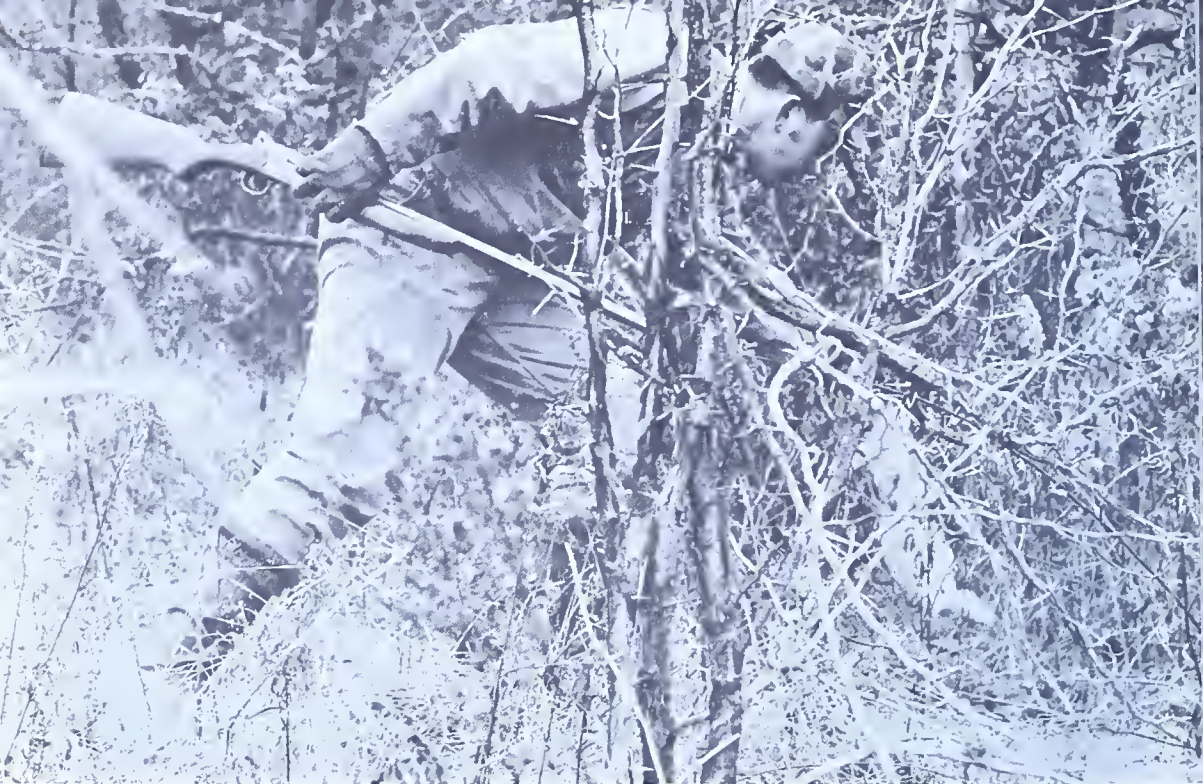
Aside from its historic significance, Valley Forge State Park is centrally located for archers in the East. Headquarters will be at Holiday Inn, King of Prussia, just a few miles from the shooting field.

Hummingbirds Threatened?

Sound from supersonic transport planes, according to some ornithologists, threaten extinction of the hummingbird by breaking its delicate eggs, making reproduction impossible.

Gotta Prove It to Us

It may not feel that way, but most of the 2500 species of mosquitoes that inhabit the world never bite humans.



BOB MILLS OF KITTANNING found single-barrel smoothbore suitable for busting bunnies in brush.

Now Is the Time to Get Some Action From Your . . .

Midsummer Dream

By Don Lewis

Photos by Helen Lewis

"THIS WILL BE the first season in nearly thirty-five years that I'll be fully equipped gunwise," remarked a longtime friend as he poured a healthy slug of coffee. "I've waited a long time for this, and it's finally come true."

"I don't quite follow you," I answered. "I always thought you had plenty of shotguns."

"I do have a number of shotguns. That's not the problem. The trouble was that I didn't have the ones I ought to have had."

"You're still not getting through to me," I replied. "Tell me what you have now that will make next season so special."

"To make a long story short, I now happen to have the particular gauges and types of shotguns that I think are

suitable for the type of gunning I do. For instance, this coming year I'll be using a 12-gauge magnum semi-automatic for turkey. When I head for the grouse slashings, the old 12-gauge double will fit right into the picture, and when I turn my beagles loose for rabbits, I'll switch to a lightweight 16-gauge pump. Since I have my own shotshell loading press, my loads will be designed for whatever type of game I'm hunting."

"That's some array of hunting guns," I said.

"I don't want to bore you, but I just bought a sweet little 22/410 combination outfit, too," he said. "The rifle barrel is for squirrels, the smoothbore in case I jump a rabbit or a grouse," he said teasingly.

"I sort of had that much figured

out," I flipped back, good-natured sarcasm in my voice. "I suppose you'll have a regular staff of gun bearers following you to remind you what gun to use," I ribbed my longtime friend.

"I know it sounds like I'm braggin', but there's hardly been a summer that I haven't dreamed of having the exact gun I want to use the following fall. Naturally, with a family and all the expense of just living, dreaming was all I did."

"Well, now that you have all you've dreamed about, do you think you'll have any more luck? Will it still be possible for you to miss one rabbit three times, as I've seen you do on occasion?" I needled.

"You can kid me all you want, but I honestly think I'll do better. I know it might be just a psychological thing, but I believe when a hunter feels he has the right gun, he'll connect more."

"I don't know about that," I cut in. "I've had a lot of shotguns in my hands, and I still missed some darned easy shots. But I'm glad you've finally fulfilled a lifelong dream. At the end of this season I'll drop back to see if you feel the same as you do now."

"I'll be looking for you, and my answer will be exactly the same," he answered.

Gun Doesn't Make Hunter

Sometime later I got to thinking about my friend's comments on owning the type of gun a hunter thinks is right for him. Although I've always believed that a shotgun should fit the hunter, I never bought the idea that the gun made the hunter. It just didn't strike me as being practical to attempt to own a specific gun for every type of game. However, I could see some merit in my friend's argument. I did feel he had gone to extremes, but I knew he was sincere in his thinking. His statements even seemed stronger when I thought about the conglomeration of guns he had owned down through the years. I recalled a mixture of single barrels, old battered doubles,

and two or three well-worn pumps. I recalled also that he had missed some game due to failures with several of the outfits he had owned. I'm still inclined to think it isn't necessary to own that many shotguns to be successful, but I have to admit that he fulfilled a dream that many a hunter has had.

What should a small game hunter own gunwise to be properly outfitted? Is one shotgun enough for all types of small game hunting? Would a 12-gauge magnum with its large shot capacity be the most practical gun for the average hunter? Is the rifle-shotgun combination the smartest buy on the market? These may sound like simple questions, but when each one is taken apart, there's a lot of room for discussion. Also, I know there is a good bit of truth about the psychological aspect of owning a gun that the hunter has faith in. I have a 12-gauge double that is so battered and decrepit looking I'm almost ashamed to carry it. Years ago, I got stuck with it in a gun trade for the unearthly sum of \$12. I entertained the hope that I could possibly get my money out of it, although I felt that any hunter with common sense wouldn't want the thing. When it flew open the first time I fired it, my hopes of selling



TO GET GUN HE wanted, Dick Collar, Cowansville, added a receiver sight to his Savage M24 rifle/shotgun for squirrel hunting.



A PERFECT SQUIRREL gun was the dream of Milton Anderson of Greenoch. He feels he has it now in this tuned-up Unertl-scoped Remington.

it sank completely; I accepted the fact that I now owned an old 12-gauge double for life. A new hinge pin corrected the problem of flying open, and, when I rolled four rabbits with the first four shots, I began to take the second look at the old gun. I can't say I've done this kind of shooting all the time, but I wouldn't dream of going on a rabbit or grouse hunt with any other gun. I really fit into this one, and my grouse score went up from an occasional hit to a surprising number of downed birds. I've shot a lot of game with this old-timer, and I do have faith in it—so much, in fact, I carried the old double ahead of a new shiny 20-gauge over-under last season.

As for owning a number of shotguns for various types of game, this could be a matter of individual taste. I stick with the 12-gauge because it throws a lot of shot and more shot means denser patterns. Some hunters, especially the ladies, object to the heavy recoil of the big 12. This can't be overlooked. I still insist that hunting should be a relaxing pastime and not an endurance test to see how much punishment the

hunter can stand. The old-time 12s did not have too much recoil, but they were so heavy the hunter was worn out by lunchtime. To use light loads to reduce recoil also reduces killing power. This could lead to a lot of crippled game. The answer to the recoil problem is simple: drop down to a smaller gauge.

One Shotgun Inadequate

I can't say that one shotgun is adequate for all types of hunting. Different types of game, terrain and cover require more than one shotgun can offer. Take the rabbit hunter compared with the ringneck hunter. Usually, the rabbit hunter has short shots in relatively thick cover. Power is not the paramount factor. This type of shooting needs an open choke gun that will produce a fairly large pattern at close range. On the other hand, the ringneck hunter usually has nothing but clear sky to shoot through. In many instances, though, the bird will get up 25 yards or more in front of him. By the time the hunter is ready to shoot, his quarry might be 40 yards away. It only takes a few shots on a patterning plate to discover how many gaps the open or modified choked gun has in its pattern at normal ringneck shooting distance.

The closest thing to an all-around shotgun is the double barrel. It's actually two guns in one. Most doubles are choked modified and full. A little thinking in selecting the proper ammo for the type of hunting you'll be doing should do the trick. I like a low-powered load of 6s in the open barrel for close shots at rabbits and grouse. A high brass load of 4s will provide a long-reaching second shot. The beauty



of the double barrel is its compactness. Some are light in weight, and this permits fast swings even in the thickest brush. Some say the double is on its way out, but, to the fellow who has used one, it's going to take an awful lot of shotgun to replace a good double. In fact, I'm a bit dubious that it can be done.

The magnum has little place in the realm of small game hunting. Its larger shot load has a tendency to riddle game, and this is not conducive to good hunting. The heavier recoil takes the pleasure out of an all-day hunt. Naturally, the waterfowl hunter, along with the fox and turkey hunter, can utilize the extras that the magnum has to offer, but unless I had specific need for a magnum shotgun, I wouldn't buy one for run-of-the-mill small game hunting.

Rifle-Shotgun Popular

At the moment, the rifle-shotgun combination is cutting a pretty wide swath through the shotgun buyers. There is a feeling that this combination idea is the answer to all problems. There are some real advantages offered by the combination gun, but a closer look might reveal that this type of gun has limited potential. It's true that a scope can be installed, and the hunter can drop a wary turkey or a sneaking fox at over 100 yards, but it's also true that once a scope is installed, the shotgun aspect suffers a great deal. I've used several scoped versions, and I did get some squirrel that I couldn't have shot without the scope. On several attempts to find a scampering rabbit or a roaring grouse in the low-powered scopes, I just couldn't do it. Practice might have helped me, but I'm of the opinion that little aiming will be done at moving small game through the shotgun scope.

I'm not insinuating that the combination gun can't be used successfully in small game hunting. It will certainly fit into many type of hunts, but



FOR RABBIT HUNTING with Bob Mills and Ol' Rip, John Coleman chose short-barreled open-bored 12-gauge pump re-stocked to his specifications—with good results.

it's not the answer to the all-around shotgun.

I won't hesitate to suggest this outfit either in the 222 Remington/20-gauge Magnum for the fox and crow hunter, and the 22 Magnum/20-gauge Magnum for the turkey hunters. From reports I've had, the 222 version is a little too much power for turkeys. Even the chuck hunter can use the 222 successfully. I shot 5-shot groups that stayed below an inch with three of these outfits, and several more gave groups of 1½" at 100 yards. This is pretty fair accuracy for a break-open outfit.

If a new shotgun is in the making for you, I suggest a practical approach. Forget the glitter and gloss along with the high pressure advertising. Keep in mind that almost any half-decent shotgun will kill small game at normal shooting distances. The first thing to do is determine a few things about the way you like to hunt and where you will hunt. Why own a full

choke 12-gauge for 20-yard shots at rabbits? After you decide what type and gauge you feel will suit your needs, concentrate on buying a gun that fits you. The bird hunter may want less drop in the stock than the rabbit hunter since most of his shots will be at rising game, the avid grouse man could use a shorter shotgun and preferably a double with a single selective trigger. He has little time to waste, and speed and agility usually spell the difference between success and failure.

Other things to consider are balance, swing, and ease of handling. To get the best for you, all these aspects have to be given careful consideration. Don't buy your shotgun from a catalog. It's of the utmost importance that you handle the gun before plunking down a bundle of greenbacks. Perhaps the shooting you've done in the past has discouraged you, but let me assure you that your failures may have

been due to the wrong type of shotgun or one that just didn't fit you. The right shotgun in your hands may make you a different hunter; it's worth a try.

Probably the last thing most hunters are thinking about right now is the next small game season. The thought of buying a new shotgun may seem ridiculous. But the old hand of time has a sly way of sneaking through month after month, and, before a fella realizes it, the small game season is a week away and a suitable gun still has not been purchased. It could be because I'm a summertime dreamer, but, if I were you, I'd give a lot of thought now to the right shotgun for the coming season. Whether it be a powerful 12-gauge magnum or a sleek 20-gauge double, it will be worth all the effort when the game bag begins to fill. Anyway, I'd sooner cut the grass dreaming about buying a new shotgun than I would worrying about taxes and other evils. . . .

Book Review . . .

Cartridges of the World

This book, now in the second, enlarged edition, provides some of the most fascinating reading anyone interested in shooting is likely to find. Basically, it gives a detailed look at the physical and ballistic aspects of over 1000 rifle, handgun and shotgun cartridges; it also gives a general rundown on the history of each, plus personal comments based on accurate field observations of the author or other experienced gunners. Each chapter deals with a specific area, such as current and obsolete American rifle cartridges, wildcats, military, British and European rifle cartridges, handgun cartridges, etc. There are case dimension drawings and reloading data for most, as well as outlines on the development of ignition devices such as primers and caps, gunpowders and projectiles. Cartridges as recent as the 240 Weatherby and 350 Remington Magnum are covered, and those as small as the 2.7mm Kolibri Auto (which used a 3-gr. bullet!), and as large as the 600 Jeffery Nitro-Express (which uses a 900-gr. bullet). There is even a chapter on caseless cartridges—possibly the look of the future. All in all, this is an outstanding reference work as well as a surprisingly good book for browsing. (*Cartridges of the World*, 2nd ed., by Frank C. Barnes, edited by John T. Amber, The Gun Digest Co., 4540 W. Madison, Chicago, Ill. 60624, 1969. 378 pp., 8½ x 11, paperbound. \$6.95.)

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40 YEARS



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Kent DENTON

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COVER PAINTING BY KENT PENDLETON

The woodchuck is a common sight in Pennsylvania's fields from early spring until fall. A 10-lb., grizzled-brown chunky character, he always seems to be either eating or intently surveying his surroundings. If alarmed, he scuttles away rapidly, fat tummy practically rubbing the ground as his short legs propel him toward the safety of his underground burrow. It's these burrows that make him unpopular with some farmers, who often welcome safety-minded varmint shooters—with whom the chuck is the No. 1 target. For a detailed report on Pennsylvania's woodchucks, see Dr. Robert L. Snyder's article beginning on page 6.

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World of the Wheel

THE 1969 HUNTING season is practically upon us, difficult though that may be to believe. And it's doubtful if many of us are ready for it. Sure, we've done some varmint shooting during the summer, and it won't be long until we're out popping some doves, but for the majority of Pennsylvania's gunners the "real season" doesn't arrive until it's time to go stompin' through cottontail or pheasant cover. And then they turn out by the hundreds of thousands, shotguns oiled, boots greased, raring to go.

Well, we've no doubt your boots will turn water, your canvas britches will turn briers, and your gun will perform as expected. (Americans are pure geniuses when it comes to making *things* work properly.) But how about you—are *you* ready for hunting?

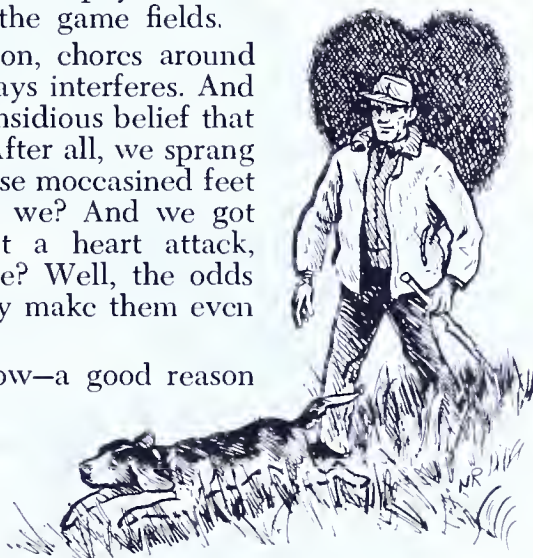
Nope, we don't mean to ask if you've reacquainted yourself with your gun through a session or two on clay birds, nor if you've remembered to buy shells. No serious harm will result if you've done neither. What we are asking is, are you in suitable physical condition to indulge in the exertion that's an inevitable part of hunting?

Most of us aren't. We're living in the world of the wheel, and we're paying for it. Eleven months out of the year, we drive everywhere—to work, to school, to church—and when we get there we sit down. This might not be so bad in itself. We've never been kooky on the subject of physical fitness, feeling that people tend to adapt to their environments. Pure strength isn't as important today as in time gone by, and as a result even our most muscular specimens would doubtless have trouble standing up to a run-of-the-mine pal from the Paleolithic.

Pheasant shooting admittedly is not as strenuous as mastodon mauling, but it still requires considerable exertion, tramping uphill and down, forcing your way through hip-high weeds and tangled briers while carrying a clumsy contraption of metal and wearing heavier-than-normal footgear and clothes. It seems only logical that we should use some of the brainpower we supposedly have substituted for brawn and improve our physical condition a bit before parking that Detroit Demon alongside the game fields.

But few of us do. Something—television, chores around the house, a magazine, or whatever—always interferes. And always, in the back of our minds, is the insidious belief that such conditioning isn't really necessary. After all, we sprang from a line of frontiersmen, riflemen whose moccasined feet effortlessly traversed a continent, didn't we? And we got through every previous season without a heart attack, didn't we? So why worry about this one? Well, the odds against us get greater every year, so why make them even worse?

Dog training season is almost here now—a good reason for getting afield that also makes it easy to start getting into shape, so what say we try it? It'll do us all good, and besides—GAME NEWS hates to lose even one reader!—*Bob Bell*





CHUCK
RIPPER

The Far Wall

By Paul A. Matthews

SOMETIMES I waken in the middle of the night in a world filled with the strange moaning of the wind and the snapping flames licking at a log in the fireplace. I hear the quiet sound of water in the distance, the soft snicker of feet as the hound returns from his quiet patrol of the house. The room is not dark—just a deep gloom that merges into shapes and shadows on the far wall. And as I lie there watching — thinking — listening — the shadows gradually take shape and motion, and I reach back across the years.

You've been there; you know what I'm talking about. You've seen the shadows twist and change shape. You've seen yourself as it was 35—maybe 40—years ago, bare feet slapping the dust in the old dirt road and your hand wrapped around the brass-barreled Hamilton rifle that came straight from Sears, Roebuck.

A hot sun is filtering through the foliage, and the dust in the road that borders Mallory Run is pleasingly warm as it puffs between your toes and gathers around your ankles. Fifty feet ahead, a black-and-tan hound sets the pace. His nose is lowered to the dust and his hind end looks off to one side—like his hind feet are walking faster than his front feet.

There's a place where a huge pine tree grows on the bank of Mallory Run, and the creek has eaten a deep, cavernous pool back under the roots. This is what you call the Frog's Place, and you lay the Hamilton down while you crawl on your belly to the edge of the bank. There's a dozen old croakers there, but they spot you and jump as one into the pool and back under the roots of the old pine. In later years a steam shovel will rout out the pine and the Frog's Place will become a distant memory.

But such things as the past and the future are of little consequence, for in the age of youth, life is now—the present—the moment of shifting the Hamilton to the left hand and listening inquisitively to a grouse drumming in the near distance.

Whr-r-o-o-o-m-m! The sound rolls along Mallory Run, and a cold chill scuttles up your spine. You've heard the sound before, but never has it beckoned to you as it does now. Never has it quickened your curiosity to the point where you start thinking and reacting to instinct. All at once you've forgotten the Frog's Place, the dirt road and the directive to be home in time for lunch. You've emptied your mind of everything—everything except the grouse.

No Specific Plan

There is no recollection of a specific plan; no recollection of trying to decide which side of the creek the grouse was on, or just how one was supposed to creep up on such a pageantry. The only thing remembered is that you crossed the creek—felt the cold water wash around and between your bare toes—with the absolute certainty that you were doing the right thing.

And then you clawed your way up the far bank through ferns and vines and laurel to an old log road that paralleled the general direction of the creek, but veered away from the creek at a very slight angle. For a full five minutes, you stood in the trail and listened—a crow on the hillside above you, the far-off whistle of a freight train, and somewhere the bawling hound on a rabbit.

Whr-r-o-o-o-m-m-m!

The sound lifts your stomach against your Adam's apple—beats on your brain like a hammer on an anvil—and

when you get both feet back on the ground, you hurry along the trail lest the grouse leave before you reach him.

The trail swings away from the creek, diagonally uphill through the timber and laurel. You know the trail by heart, and running along with bare feet is no problem. Finally, it levels out along the top of a ridge, and instinctively you know you're above the grouse. Maybe he's a bit farther along the trail, but you're above him. You're beginning to outmaneuver him!

You stop and listen again—holding your breath so you can't hear the wheezing of your own lungs. But inside your ribs, your heart is bouncing back and forth like it's going to bust your eardrums, and you know—or imagine—that you couldn't hear the grouse now even if it were in plain sight.

So you walk along the ridge, easy and quiet, peering downward at the bench far below.

WHR-R-O-O-OM-M!

The sound freezes you with one foot still in the air. You're close. So close

THERE'S A DOZEN old croakers at the Frog's Place, but they spot you and jump as one into the pool and back under the roots.



you can almost smell him—almost reach through the trees and curl your fist about him.

You leave the trail now, angling downhill one step at a time toward the twisted hulk of an old chestnut tree. You know the bird is there, just beyond the chestnut in a little clearing beneath the hemlock branches.

Going downhill and keeping quiet at the same time is very difficult. The leaves rustle under your feet, and stones hidden beneath the leaves slide away from your weight when you test them.

Bluejay Squalls

Suddenly, and without a hint of warning, a bluejay squalls at you. He's perched at the tip end of a witch hazel—jumping up and down like a mad hatter—screaming with every drop of venom his bird soul can muster.

Instinctively you detest that bird. You grip the Hamilton until your knuckles whiten and you wish you could be certain the grouse had left. But the grouse drums again and you give the bluejay a nasty look and ease your way past an outcropping of rock. Not too far ahead, the chestnut looms ancient and white with its dead limbs clawing skyward like the withered arms of an old woman.

Slowly now. Very slow. You're bent in a half-crouch, inching your way toward the chestnut like a cat stalking a mouse. You think you hear something and you stop—freeze like a chunk of stone.

Nothing.

Maybe it was only your imagination, so you take another step—and another—and another.

WHR-R-O-O-O-M-M!

Man, how the woods vibrate! How the excitement rises up in your stomach! How your heart pounds and your temples throb! You know the grouse is there—scarcely forty feet away—just beyond the chestnut!

You crouch lower now, keeping below the horizon of that fallen chestnut.

And then suddenly you're behind it—pressing tightly against the decaying wood and hearing above your own heartbeat the rattle of leaves as the grouse struts and prances in a little circle not twenty feet away.

Your lungs subside and you raise your head—just eyeball level with the log. And there he is!

Man, what a sight! Strutting around there with his wing tips trailing the ground and his tail fanned and a black feather ruffle around his neck shining like broken anthracite when the sun hits it. And then he stretches—lifts his head high and leans forward on his toes.

WHR-R-O-O-O-M-M! His wings beat so fast it is over before you realize what has happened.

You watch him for a moment and then, suddenly, you are filled with a strong desire to rise up from behind the log roaring like a banshee. Even the thought of such a thing splits your face into a grin. You come up with a wild-eyed bellow—like bursting up from the depths of the old swimming hole.

Then you find you were not the only creature to stalk the grouse.

You had never seen the fox—didn't know the fox was there until the grouse roared away like a Stuka dive bomber and the fox landed in the middle of the clearing, stunned with the realization that he had just lost his dinner. You had scared the grouse just a split-second prematurely!



YOU'RE MOVING SLOWLY. Very slowly. Bent in a half-crouch, inching your way toward the chestnut like a cat stalking a mouse. . . .

You and the fox—eyeball to eyeball for maybe five seconds! Then you blink and the fox is gone and the Hamilton hangs useless in your hand. It is finished—over with—a once-in-a-lifetime happenstance. Never again will you see such a thing as this . . . until years later when you waken in the middle of the night and watch the shadows move on the far wall and listen to the voices and sounds of the past. . . .

New Game Protector Class Is Scheduled

Recruitment of a new class of Game Protectors to begin training next year was approved recently at a meeting of the Pennsylvania Game Commission. A class of 25 Game Protector trainees will be selected in a process starting this fall. Public announcements will be made at the appropriate time concerning eligibility and the procedure to be followed by applicants.

Classes will begin for trainees in March, 1970, and graduation is scheduled for February, 1971. Instruction is centered at the Game Commission's Training School near Brockway, Jefferson County, with practical field application at appropriate seasons of the year throughout the state.



Photo by Leonard Lee Rue, III

Though an Exceedingly Popular Game Animal With Varmint Hunters, Few Know Much About the Woodchuck Itself, or Its Life and Habits—and Even Less About How It May Prove Beneficial in Man's Fight Against Several Dread Diseases. Here Is an In-Depth Report, Based on Years of Study by a Leading Authority, on . . .

The Pennsylvania Woodchuck

By Robert L. Snyder, Sc.D.

Acting Director, Penrose Research Laboratory

ONE DAY LAST summer I was showing a small group of fifth-grade students through the animal quarters at the Penrose Research Laboratory at the Philadelphia Zoo. At the time, about 50 woodchucks (marmots, groundhogs, etc.) were caged in the room. I thought the children would enjoy a close look at these impressive rodents. We had already observed the standard white laboratory mice and rats used for medical research, so I pointed out the fact that mice, rats and woodchucks were related species in that all were rodents or so-called gnawing animals.

One small boy evidently wasn't very impressed, for he asked me, "What are woodchucks good for?"

"Well," I answered him, "woodchucks are good for lots of things. They're good to hunt, they're good to eat, and they're especially good subjects to study heart disease." It occurred to me after all my young guests had left that a lot of people don't fully appreciate what animals are good for.

For example, in this day of enlightenment by the educational media of television and radio, most woodchuck hunters are probably aware that heart disease, stroke, and cancer are the three most important diseases afflicting mankind. What they probably don't know is that their favorite game animal is equally prone to develop these dreaded diseases. This fact came to light as a result of a study of the causes of death among wood-

chucks maintained at the Penrose Research Laboratory from 1960-1969. Actually, in the past ten years woodchucks have received a lot of attention from scientists and much has been learned about their diseases, their physiological mechanisms, and their behavior. Most of this new knowledge would naturally be of interest to the readers of *GAME NEWS*, and for this reason it seemed like a good idea to summarize the more pertinent results of my own studies on Pennsylvania woodchucks.

The woodchucks maintained in the laboratory cages were captured at the Letterkenny Army Ordnance Depot near Chambersburg when 3-5 months of age. The oldest of these were nine years old during April, 1969; thus, collectively they are probably the oldest groundhogs in captivity. The selection of the Army Ordnance Depot as a source of woodchucks wasn't entirely an accident, for I had spent three years on a field study there from 1956-1959. Habitat conditions were nearly ideal at that time and the area supported extremely dense populations of woodchucks. The objective of the study in the simplest terms was to find out all there was to know about woodchucks. My first job was to devise the best methods of trapping these animals alive, because handling woodchucks for the purpose of taking weights and measurements, making parasite counts and collecting urine and blood for medical studies was required.* Also, marking animals with numbered, metal ear tags before their release made it possible to learn a lot about the species' private life. How fast they grew, how far they traveled, how much they ate, how long they nursed their young—these are only a few of the questions answered by trapping and retrapping individually identified animals.

My first experience with a woodchuck in a trap was a bit nerve-wracking. In September, 1956, I experimented with some box traps, but these were designed for cottontail rabbits. Being new at the game of handling live woodchucks, I had consulted the scientific literature beforehand and had come up with a wire cone that fit over the mouth of the box trap and which tapered down to a wire ring three inches in diameter. The device consisted of several strands of number nine wire running from a large rubber band around the mouth of the trap to the metal ring. This apparatus could be collapsed around the animals and held or tied together at the end. Unfortunately, the woodchuck in the trap wouldn't turn around regardless of

the stimulus. When I tried to pull the animal from the trap by the tail, I found out that a medium-size groundhog can be very stubborn indeed. This animal was able to brace itself against the sides of the box and refused to come out backwards.

I finally had to dismantle the trap, and at this stage I ended up holding a very angry marmot by his tail. I wasn't sure then whether a woodchuck could turn up on itself to bite, so I was a bit apprehensive. However, I soon realized that the weight of the average woodchuck made it vulnerable to the tail hold. It turned out that this was a safe way to carry woodchucks from one spot to another. The young ones are lighter and more agile but can still be carried by the tail if one is careful to shake them when they try to turn back toward the hand.

MY EXPERIENCES in 1956 led me to make some larger box traps measuring 30 x 11 x 9 inches. With these traps I was able to trap more than 2000 woodchucks over the next three years.

Marmots are true hibernators; i.e., they sleep through the winter in an underground burrow. The whole process of hibernation is still a mystery to scientists. A hibernator is able to reduce its body temperature and slow its vital life processes to a bare minimum. The little bit of energy required during this time is supplied from fat depots which are built up over the summer when food is plentiful. Scientists are anxious to learn the mechanisms of hibernation for many reasons. An immediate application would be in the field of medicine for patients requiring major surgery and in the treatment of certain diseases.

Each year during October there was a noticeable reduction in woodchuck activity, and by November 1, which corresponds closely to the traditional opening of the small game season, a woodchuck was a rare sight. Hunters occasionally bag a woodchuck while hunting rabbits and pheasants, especially in the southern part of the state. My experience with October and November woodchucks leads me to believe that those above ground after the middle of October in southcentral Pennsylvania are diseased or otherwise handicapped and therefore have not been able to store sufficient fat for hibernation. During the months of October, 1956-1958, I shot 38 marmots, 22 young of the year (11 males and 11 females) and 16 adults (11 males and 5 females). The young were generally healthy;

however, the adults suffered from various afflictions—malocclusions or overgrown incisor teeth (2), encysted tapeworm larvae (1), and kidney diseases (all 16). The old animals, with two exceptions, were not as fat as they should have been. Hence, it would appear that woodchucks with sufficient fat stores commence their winter fast on about October 1 in southcentral Pennsylvania, but others for various reasons are forced to remain above ground much longer. Some of the animals no doubt perish during the winter because they cannot accumulate enough fat. Young of the year probably require a bit longer to store sufficient hibernation fat, which would explain their presence above ground.

DURING my first winter on the study area I attended classes at Johns Hopkins University on weekdays and excavated woodchuck burrows on Saturdays in search of hibernating woodchucks. My first dig on December 18, 1956, was successful, and more by luck than good management I found a hibernation chamber containing a 10-pound adult female. My good fortune is indicated by the fact that after the first dig I was able to locate hibernating woodchucks on the average in only one of 20 excavations.

A burrow system is an elaborate set of underground tunnels (up to 40 feet-plus in length) with many branches and dead ends. The hibernation chamber at the end of one of the tunnels is a large bowl-shaped hollow lined with several bushels of leaves, dried grasses, and even scattered corn shocks. The roof is generally three or four feet below ground level.

The female located on December 18 was wide awake when the shovel broke through her chamber. She was hidden deep in the middle of the nesting material and made a loud, menacing, clicking noise by meshing the incisors rapidly when I touched her back. The noise is difficult to describe but is a little bit like the sharp staccato sound of a typewriter. Studies of hibernating rodents in the laboratory show that complete arousal from hibernation requires about six to seven hours. A loud noise, a change in temperature, or a touch, is a sufficient stimulus to initiate arousal. Thus, the first sounds of the pick and shovel may have started the arousal process. Since the first excavation took more than six hours, the occupant had ample time to arouse herself.

February 2 is the day on which, according to legend, the groundhog first emerges from

hibernation. Of course, the legendary ability of this animal to predict the weather has always been viewed with scepticism by scientists. My professor at Johns Hopkins already had warned me that I should make a special effort to record the first activity at the end of winter. He also suggested that to be sure I didn't miss the first woodchuck to emerge I should make periodic checks of burrow entrances starting on January 1 each year. I found no signs of woodchucks above ground during January of 1957. I set out with little enthusiasm on February 2 that year and was more than a bit surprised when I found unmistakable evidence of an active woodchuck in the form of mud freshly excavated at a burrow entrance. The woodchuck's footprints were clear in the soft mud. I was also rewarded by an actual sighting of this particular animal at high noon the same day. This animal saw his shadow without a doubt, for it was a bright sunny winter day.

Only a few animals were active during the first week of February, but the number increased toward the middle of the month. In 1958, the local residents missed Groundhog Day completely, but only by one day. In 1959, they were one day early. In retrospect, even scientists would have to admit that February 2 is an accurate date for the emergence from hibernation at Chambersburg. Farther south the animals emerge a few days earlier and as far north as southern Canada they probably sleep for at least a month longer.

Since there were animals above ground, I set out traps and followed their tracks in the snow to get an idea of the range of movements. Animals were active above ground for only one or two hours during the middle part of the day, and for this reason trapping success was poor. From 1957 to 1959 I caught 25 animals. Their sex, weights and ages revealed an interesting pattern. First, only two of the 25 were females, one trapped on February 22 and the other on February 26. Second, only one of the males was a youngster (born the year before); 24 were mature adults (at least 2 years old). After March 1 the sexes were equally represented in the traps which can lead to only one conclusion—the females stayed in their dens for 30 days longer.

Many of the woodchucks were sacrificed for studies of physiology and disease. The firearm selected for collecting specimens was an ordinary 22-caliber rifle equipped with a 6X scope; the cartridges were Long Rifle

hollow points. The study area was in the restricted ammunition storage area of the ordnance depot and closed to the hunting public. The animals were always shot at close range (25-50 yards), since the objective was merely to collect the desired animal with a clean kill. At first the animals were shot in the head, but the bullet very often destroyed the pituitary, a small endocrine gland at the base of the brain. Since this organ was required for medical studies another point of aim, the neck, was tried. This proved to be an excellent choice. The bullet usually hit the spinal column and at least one of the jugular veins and dropped the animal on the spot.

A careful dissection of the visceral organs, with special attention paid to the fat depots and the reproductive organs, added a tremendous amount of information concerning the woodchuck's life cycle. For example, weighing the fat deposits in the abdominal cavity provided information on the efficiency of hibernation. The fact that a considerable portion of the fat stored during the summer was still present after hibernation provided some new insights. Stores of fat were obviously an important source of energy during the breeding season in early March when green foods were not abundant. The breeding males especially relied on these stores during February, since observations showed that they ate little, if any, at this time. Females utilized this fat during pregnancy and even had a portion left over for the nursing or lactation period.

WOODCHUCKS gain weight steadily for about six months, then lose weight for the next six months. This cyclic change in weight is repeated again and again through life. It would appear that woodchucks attain progressively higher weights each year for the first few years of life, at least. My data show a gradual diminution in the rate of increase for the first three years of life.

Animals of unusual size are of considerable interest to hunters. The largest woodchuck collected during my study, a male, weighed 15 lb. 12 oz. on September 4. This animal when recaptured again on March 5 the following year weighed only 9 lb. 9 oz. So I would suggest that hunters wanting a giant trophy should try their luck during September. The largest female weighed 12 lb. 12 oz. on August 28. The weights of these animals are not unusually high when compared with the average weights of the adults collected during September and Oc-



ROBERT L. SNYDER, Acting Director, Penrose Research Laboratory, Philadelphia, with baby woodchuck born in the laboratory on Groundhog Day.

tober, but they are the highest of more than 2000 animals handled. I would judge from my data that reports of 40-pound woodchucks which sometimes appear in the newspapers are greatly exaggerated.

The loss of weight during hibernation was of special interest. Measures of weight loss were calculated by averaging the weights of animals captured just prior to hibernation and then subtracting the average weight of the animals weighed soon after emergence. Total weight losses during the period of decline ranged from 20 percent of the pre-hibernal weight of young males (less than a year old) to 38 percent of that of adult males. Young females lost about 30 percent of their weight during hibernation and the immediate post-hibernation period and adult females about 35 percent. In general, the metabolic rate of animals in hibernation is between 1/30 and 1/100 of the resting metabolic rate at normal body temperature. The weight loss of woodchucks during actual hibernation works out to approximately 0.2 grams per day per kilogram of body weight. In contrast, a scientist studying another species of ground squirrel in the laboratory found that 4126 hours of hibernation required only 70 calories of energy, while 330

hours of wakeful activity used up 597 calories. These data emphasize again the extreme efficiency of the physiological mechanisms of hibernation.

The breeding season begins immediately after hibernation. The testes, which undergo a cyclic, seasonal change in size and function, have already developed considerably when the males emerge in February and reach their maximum weight of roughly 10 grams during March (1 oz. = 28.35 grams). The adult males during February and March are extremely aggressive and fighting is fierce and sometimes bloody. Movements during February were measured after each new snowfall. The males moved from one burrow system to another, covering distances of 200 to 300 yards, usually early in the morning or at midday. It was during their travels that contacts between males resulted in bloody skirmishes.

ONCE I SAW three animals involved in a battle which lasted 25 minutes. A woodchuck fight is a fierce spectacle. The incisor teeth of these large ground squirrels are formidable weapons and ripped ears and torn lips were noted on many of the males trapped at this time. Another common wound was inflicted on the tail with the result that approximately 25 percent of the adult males had bobbed tails. The vanquished male in these encounters often lost his tail when he turned to run. I saw the tail hold on only one occasion and although

in this particular conflict the appendage was not amputated, I can vouch for the bulldog-like grip of the victor. A short tail was an added hazard to those handling trapped woodchucks, but I must admit that the danger was mostly psychological because there was usually enough tail left for a firm grip.

Considerable information on reproduction was obtained by careful dissections of reproductive tracts of animals shot during the period from March through June. Visible embryos were first observed in the uterus of a female shot on February 22. Technically, the body *in utero* is called an embryo until the body parts and the visceral organs are completely formed. The gestation period of the woodchuck is approximately 31 to 32 days. The embryonal development is completed early, probably during the first third of pregnancy. From this point on the unborn baby is called a fetus and further development is simply a matter of growing larger and developing hair.

Parturition is the scientific term for bringing forth offspring. The baby woodchuck, like other so-called placental mammals, is attached to the maternal blood supply by a placenta while in the uterus. The baby obtains oxygen and nutrients and gets rid of carbon dioxide and metabolic wastes through this vascular organ. At parturition the placenta is detached, but it leaves a bloody scar on the uterine wall. This scar heals but remains visible for several months, even up

WOODCHUCK DEN HAS BEEN DUG AWAY to expose cross-section. Tunnels may extend forty feet, have numerous branches and dead ends.



to a year in a few instances. One can count the uterine scars of the females killed during the hunting season to determine how many offspring there had been in the last litter. Biologists use this technique to determine the productivity of certain populations of mammals.

Placental scars were not found before April 1 and embryos and fetuses were not found after April 21. From this evidence one can say confidently that with few exceptions woodchucks are born during the first three weeks of April in southcentral Pennsylvania. This statement is based on dissections of 68 female woodchucks shot during the critical three-week period in 1957 and 1958.

Lactating females were collected from April 1 to June 9 and 154 females were examined during this period. A rough calculation from April 10, the midpoint of the parturition period, to May 23, the point at which half the females had ceased lactating, indicated a lactation period of 44 days.

A recapitulation of these data gives a rather accurate description of the reproductive cycle. The adult males emerge from hibernation about three to four weeks before the females and the sub-adult males. The majority of the sexually mature females are bred during the first three weeks of March and most of the young are born during a period from April 1 to April 21.

THESE STUDIES also demonstrated that 75 to 80 percent of the females each breeding season became pregnant. Also, those females not impregnated were invariably young of the previous year, the so-called yearling females. Actually the percentage of yearling females becoming pregnant varied from year to year but never exceeded 55 percent. The approximate average litter size, which was calculated by counting the number of embryos or fetuses and the placental scars, was 3.42 in 1957 and 3.97 in 1958. The largest litter recorded in this manner would have contained nine offspring if all had survived. Furthermore, these studies demonstrated unequivocally that Pennsylvania woodchucks have only one litter a year.

I had the good fortune to examine three young woodchucks immediately after birth in one of my captive females. Two females weighed 30 and 33 grams respectively and a male 34 grams. The babies were quite helpless, the eyes were still closed, and the hair coat was sparse. They measured 85 millimeters (3.35 inches) from tip of the nose to the base of the tail. The earliest date a



THIS IS A woodchuck skull.

young woodchuck was captured away from its home den was May 15. This young female weighed 425 grams, but was not the smallest taken. A male caught on June 5 weighed only 310 grams. From May 15 until approximately the first of June, mother and young are sighted together frequently. The young stay close to the female. They romp and play together much like young puppies and also include their mother in their play activities. The mother is very alert and protective. She brooks no interference by other adult woodchucks and will stand her ground when surprised by a human intruder as well.

The approximate growth rate from birth until weaning was 16 grams per day. The calculated rate of growth from June through September was 20 grams per day for males and 18 grams per day for females.

Unlike marmots in other parts of the world, which live together in small colonies, the "eastern" woodchuck leads a solitary existence except during the breeding season. In general, one wouldn't consider them social animals. Moreover, most naturalists consider marmots to be promiscuous in their mating habits, although on this point I have my doubts. Each spring while I was on the Letterkenny study area I noted a strong pairing tendency. That is, I observed what I thought to be the same two animals occupying the same burrow system for several days in a row.

Such behavior doesn't fit the definition of promiscuity precisely, which made me curious about the makeup of these "odd couples." After an appropriate period of observation

to establish the strength of the bond, I collected the two animals with two shots from the 22 rifle. The shots had to be fired in rapid succession to accomplish this feat, but in most instances it worked well enough. The two animals were often very close together, practically touching at times, but the surviving member was still not unduly alarmed by the sudden demise of his or her companion.

I was able to study 36 pairs for the required length of time, which I set arbitrarily at 7 days in succession, but only 10 of these associations were collected in the desirable manner. The associations either broke up before I could collect them or the two animals refused to cooperate by standing close together during the allotted time for shooting.

Eight of the 10 pairs included a male and a female, both sexually mature. The other two pairs were unusual. One consisted of a large, sexually mature, adult male and a small, immature, yearling male, while the other consisted of a pregnant female and a

yearling female with undeveloped ovaries. The one example would indicate that a sexually mature male will tolerate an immature male. The second example indicates that we should take nothing for granted concerning woodchuck behavior.

Woodchuck pairs were observed only from late February until the end of April. During April the females were nursing their young underground and for a time at least these females must have tolerated a male companion. But by the time the young appeared above ground with their mothers the males had returned to their solitary existence.

THE YOUNG are weaned by late May or early June and movements away from the home den commence almost immediately. The distances covered by these young travelers are sometimes considerable. For example, one emigrant moved 5500 feet between June 19 and July 9, 1958, then was captured again on April 24, 1959, 2915 feet away. The record distance was 10,000 feet, accomplished between June and September.

The young of the year are evidently traveling in search of favorable homesites. The traveling must of necessity be suspended during the winter hibernation period, but a small percentage of these animals take up the nomadic behavior again the following spring.

The oldsters, in contrast, are real homebodies, rarely moving more than 2000 feet within their home ranges. Some of the adult woodchucks first captured and ear tagged in 1956 were captured again in 1957 and 1958. All of these animals had remained in the same general area during the three-year period. As a matter of fact, most of them were trapped at the same trapsites or, at most, in traps 200 feet distant.

We now have a fairly good idea of the woodchuck's life in the wild, but what happens when they are brought into the laboratory? First of all, most of them accept captivity graciously. These creatures were all very fierce and wild when captured. Thus, it surprised me no end to find that a full-grown male would soon actually permit himself to be patted on the head. The old male in the first cage by the doorway likes to have his head scratched. He is also a favorite of the lab technicians and they allow him and others to leave their cages daily for exercise in the animal quarters. The male in cage Number 12, however, now nine years old, is a real old grouch and can't be trusted. Don't get the idea either that the females

THE LARGEST female chuck in study weighed 12¾ lbs., while the largest male went 15¾ lbs. These animals go through cyclic weight change.

Photo by Leonard Lee Rue, III



are by nature the gentler of the sexes. One or two of the old girls are crotchety too. Woodchucks, like people, have their own individual personalities.

Woodchucks in this laboratory didn't hibernate, probably because it was too warm and also possibly because there was no shortage of food. And although several pairs of males and females were caged together, only two litters have been born thus far. The first, a litter of seven, was born on February 23, 1963, but these young chucks died within 24 hours. At first I thought the cage environment was not suitable for reproduction but this was not true because a second litter was successfully reared in 1968. The young mother responsible, 22 months old, made the front page of a Philadelphia paper by delivering her babies on Groundhog Day. We made a small bed of straw for her in the lab cage and she nursed them faithfully for 45 days. These youngsters are fairly tame now and are still growing at this date.

It is probably significant that the litters were born during February instead of during April, which is the normal time for bearing young in nature. Scientists know that the physiological mechanisms of reproduction in many animals are governed by the length of daylight. Thus, the perception of increasing hours of daylight in the spring each year initiates the development of the reproductive organs. The lights in the laboratory are regulated by an electrical timer to allot 14 hours of light every day. So perhaps the woodchucks were confused by this turn of events.

THERE WERE deaths as well as births in the laboratory. Thus far, 30 captives have died. A detailed postmortem examination complete with microscopic examination of the tissues was conducted to determine the cause of death in each case. Ten of these animals developed cancer of the liver. This is an unusually high incidence of cancer and the exact cause is still a mystery. Other causes of death were ruptured aortas (the main artery from the heart), heart attacks from hardening of the coronary arteries, and cerebral strokes, also the result of hardening of arteries in the brain.

The pattern of diseases has created a lot of interest in scientific circles because there is an urgent need for suitable experimental animals which develop this pattern spontaneously. A satisfactory laboratory animal for medical research must develop disease patterns either identical to or similar to those



MALOCCLUSION is fairly common among woodchucks and a typical result is shown. If teeth had met properly, this would not have happened.

which develop in man. Furthermore, the animal's lifespan should not be too long, so that the disease being studied can be expected to develop in a reasonable period of time. For example, woodchucks develop cancer of the liver within 23 months and heart attacks and strokes within 36 months. Diseases which normally take 40 to 60 years to develop in man occur in the woodchucks in roughly one-twentieth the time. Perhaps woodchucks will be ideal models for the study of heart disease, cancer, and stroke. If so, man will be the benefactor.

Woodchucks certainly are good for lots of things, but then, most animals are good for more than we give them credit. The majority of hunters fully appreciate the sport and pleasure derived from game animals and many have found that their sport is increased immeasurably by knowing as much as possible about the animals they hunt. Therefore, the next time a game biologist asks to check the teeth of the buck you killed or to measure the length of the spur on that cock pheasant in your hunting coat, don't be as skeptical as the fifth-grader. The biologist is trying to learn as much as possible about the game animals you hunt. In the end it will benefit us all, perhaps in ways we never thought possible.

**Dr. Snyder's woodchuck trapping was done under special permit from the Game Commission. Trapping these animals is otherwise unlawful.*



NED SMITH



By NED SMITH

Heat and insects seem to stifle most life forms, but August brings a "genius" bumblebee, a white barn swallow, and a vile-tempered timber rattler that knows what it doesn't like . . .

EXCEPT FOR visitors to public campgrounds and picnic areas, the woods are nearly deserted by humans in midsummer. The heat and humidity, plus the mosquitoes, punkies, deerflies and chiggers, are enough to drive all but the most confirmed outdoorsmen into the more comfortable realm of air conditioning, iced drinks and swimming pools.

The weather has a stifling effect on wildlife, too. Most of the birds have lost the urge to sing, box turtles soak sumptuously in the cool mud for days on end, and deer seldom stir from the shadowy places until sunset. Even the sun-loving woodchuck hunts a cool retreat in midday.

Of course, there are things to see in the forests even during August's most torrid weather, especially if you anoint yourself with insect repellent, haunt the cooler spots, and remain outdoors until those last minutes of daylight when wild creatures begin to stir. But it's neither as pleasant nor as rewarding as a spring or autumn outing.

A more comfortable and convenient way to keep abreast of what's going on in your area is to make quickie inspections of sand bars and mud-rimmed pools along local streams. The evidence is strictly circumstantial, but

the tracks found in these places will often surprise you.

Unpaved country roads and lanes are also worth looking into. The lane that follows the line fence down to Weaver's sawmill is one of these—a register where every passerby leaves his signature in the dust. This afternoon as I strolled down that way a pair of bobwhites exploded in what looked like a puff of smoke. Apparently they had been dusting in the car tracks before my arrival. And judging from the signs there had been lots of other activity. Rabbit tracks from the previous night dotted one rut in both directions, and earlier today the quail had made footprints everywhere. A flicker had left his paired "X's" where he had hopped from ant hole to ant hole to probe with his long bill and stieky tongue. An apple that had dropped from a nearby tree and rolled onto the lane was surrounded by the tracks of the starlings that had eaten much of its decaying pulp. Earthworms had left their meandering, narrow-gauge trails, and a beetle's hurried crossing left a double track of dainty, incised commas.

The next truck to visit the sawmill will wipe the slate clean, but while we sleep more wild creatures will venture out and begin a new page.

August 5—Turk's Cap lilies are in full bloom in the deep soil along Powell's Creek. It would be hard to imagine a finer wildflower than this stately beauty with its crown of rich orange blooms.

Later in the morning I discovered a hitherto unknown stand of another gorgeous wildflower. A roadside ditch was sheltering a row of yellow fringed orchises, delicately feathered wild orchids of an unusual orange-yellow hue.



Speaking of orange, the little spotted jewelweed's flowers need take a back seat to none. Were they not so all-fired common the dangling, orange cornucopias flecked with brick red would be sought out by eager botanists everywhere.

But they *are* appreciated by the hummingbirds. Yesterday we watched probably a dozen tiny ruby-throats passing from flower to flower in a moist gully choked with jewelweed. An iridescent hummingbird, gemlike in the dappled sunlight, sipping nectar from the jewelweed's cup, is an unforgettable sight.

August 11—Rabbits and timidity have always been synonymous, but cottontails do have their savage side. This afternoon I spied two rabbits settling an argument in the field ahead of me, and it was pretty rough. The larger one got in the most licks, lashing out

with his powerful hind feet as he leaped over the smaller one. The latter ducked and wheeled, trying desperately to escape the blows and land some of his own, but he was clearly getting the worst of it. After his rival had knocked him head over tin cups four or five times he abruptly headed for the fencerow. The big fellow, hot on his heels, gave him a parting kick as he scrambled through the fence and disappeared into the cornfield.

I've heard that rabbit fights sometimes end fatally. Neither of these combatants showed any visible wounds, although those lusty kicks surely must have hurt!

August 13—Most bumblebees obtain the nectar from the yellow flowers of the butter-and-eggs by weight and sheer brute strength, pulling the flowers' "mouths" open and forcing their way inside to sip from the deep spur. This morning, however, I watched a more ingenious individual. Immediately upon alighting on a flower this bee would turn upside down, clinging to the flower head downward. A snip of the jaws made a V-shaped incision in the side of the nectar-filled spur, through which the slender tongue was inserted and the nectar lapped up with ease.

August 14—Paul Bowman called to tell me he had seen a white barn swallow while mowing hay near Fisherville yesterday, so I drove up there after supper to watch as he finished the job. Possibly a hundred swallows were coursing over the field, twittering cheerfully as they scooped up the insects stirred out by the tractor and mower, and sure enough, a white one was among them. I could easily distinguish him although the distance must have been nearly 200 yards.

For several minutes he frolicked among his dark-blue companions, then suddenly disappeared from the flock. Assuming that he had gone somewhere to rest I returned to the car, and was pleasantly surprised to find him

perched on an electric light wire leading into the barn. Better still, he let me approach closely enough to examine him in detail through the binoculars. His plumage was completely white except for the shafts of his tail feathers and primaries, which were dark. If any other feathers had dark shafts they were too fine to distinguish. His eyes were not pink as in true albinos, but were as dark as those of a normally colored bird.

August 17 — Steve caught a 44-inch timber rattler yesterday—a vile-tempered reptile if ever I've seen one. When we dumped him out of the bag to take his picture he immediately went into a classic rattler pose—body tightly coiled, lumpy head poised, buzzing tail poked upward. The muscles of his lithe body were taut as bowstrings, stretching the skin until each scale stood apart from its neighbor. Rattles whined at a constant pitch.

As I walked around him snapping pictures from every angle he made no attempt to escape; I got the impression that he was playing it cool while awaiting the opportunity of sticking his fangs into someone's shins. Except for the vibrating rattle and the momentary tightening of his coils when I made a sudden movement he was absolutely motionless.

When he did strike it was completely unexpected. I had been kneeling in front of him shooting through a 135mm lens at a carefully measured distance of 2½ feet. When I stood up his head shot out, the body coils straightening out with an audible slap. The strike fell short, but it startled me nevertheless, not only because it was unexpected but also because of its surprising reach.

The snake was coiled beside a long, flat rock, so we decided to induce him to strike again and measure his reach on the rock. At first he refused to strike, showing no interest in the stick I waved before him and bumped against his nose. A flashbulb box dangling from the snake-stick was also

ignored. However, when I stepped forward just out of reach he lashed out purposefully. Steve marked the spot and when we measured it later we found that his head had reached exactly two feet from its original position on the neatly coiled body, somewhat more than half the reptile's length.

August 22—Like many young birds, the two juvenile flickers that have been feeding on our lawn the past few days are reluctant to untie the apron strings. This morning they followed the male everywhere as he made the rounds of ant holes in the short-cropped grass. For short intervals they themselves poked into the holes and fed on the swarming inhabitants. But most of the time they shadowed the Old Man, hinting broadly for a handout. Good father that he was, he fed them like helpless hatchlings, inserting his bill into that of each young in turn and ramming the food home with fearsome thrusts.



TURKS-CAP LILY

But there are signs that "weaning" is just around the corner. One fledgling, too persistent in his begging, was whacked unmercifully on several occasions. For awhile he foraged for himself, but was soon tailing Papa again.

August 23—While photographing some

Indian pipes on a bank along the Humphrey's Hollow Road I nearly put my elbow on several of the curious fungi called earth stars. The points of their star-shaped rind were curled beneath them, a sure sign of impending rain, according to popular notion. Actually, the earth star is a pretty fair barometer. In dry weather the points fit together to form a spherical enclosure for the round, spore-bearing "stomach" in the fungus's center. As atmospheric moisture increases, usually a prelude to precipitation, the absorbent inner layer of rind begins to swell, causing the points to open, then recurve, raising the fungus off the ground.

If you tap a ripe earth star, dust-like spores will squirt from one or more apertures in the stomach, revealing its kinship to the better known puffball.

EARTH STAR IN
DRY WEATHER



"PREDICTING
RAIN

August 25—Yesterday a bevy of young grouse scampered off the White Oak Road as the car approached, and I stopped to look them over. Their mother moved off through the undergrowth, but the youngsters, wide-eyed and innocent, were too curious to leave. They were nearly full-grown, but unmistakably immature. Their plumage was scanty compared to an adult. Their crests consisted of scraggly tufts of a few undisciplined feathers. And their tails—they were nonexistent!

As all young grouse must do, they had moulted their juvenile tail feathers, leaving a bare space between the upper and lower tail coverts. In a few weeks the space will be filled with new retrices, the start of a glorious fan, but in the meantime they must tolerate their own truncated appearance.

Today another group of six adolescent grouse crossed the road above Muckle Ratz; like the others they were completely tailless. They proved their self-sufficiency, however, by flying in fine style when I opened the car door. The lack of tails didn't appear to be a handicap.

August 26—Insect stridulations provide most of the background music at this time of year, but we seldom see the singers themselves. Today the nearness of one individual tempted me to track him down, and I was soon zeroing in on the source of that prolonged buzzy trill which is a part of every late summer afternoon. As anyone knows who has tried to locate a chirping field cricket, for example, insect sounds can be deceptively ventriloqual, but at length I found the singer among the virgin's-bower that nearly covered a wire fence. It was a pale-green meadow grasshopper, one of the long-horned variety somewhat resembling a small katydid. Its wings were held nearly horizontal above its back, fluttering back and forth over one another so rapidly they were but a blur. I could have watched all day and come no closer to solving the riddle of how the sound was produced. Fortunately, that was not necessary. Years ago someone determined, with the aid of magnifying optics, that the meadow grasshopper wears a miniature scraper on one wing and a roughened spot on the other wing. Rubbing one over the other creates the trilling sound.

As August wanes the meadow grasshopper's relative, the katydid, spends the hours of darkness fiddling in like manner, except that their sounds soon become a deafening chorus.



MOST OF US can recall incidents by which we early learned of the thoroughness of natural camouflage among living creatures below the level of man. Some of the memories may be amusing, some exasperating. But whether you were provoked, en-

chanted, humiliated or simply bewildered by a particular experience, you stood as privileged witness to a fundamental working endowment ever wondrous to behold.

Perhaps you're thinking of the time you brushed against the green snake that was drowsing on a vine-thatched low branch; and even then you probably wouldn't have seen the slender reptile if he hadn't suddenly raised his head in alarm. What a marvel of near-perfect camouflage — sinuous green amid green, with scarcely a trace of difference in the shading of serpent and foliage!

Or you may be thinking of the woodcock you almost stepped on—even though you'd have sworn that you had just scanned the spot he hastily vacated. You could even be remembering with a wry chuckle that certain smart-aleck gray squirrel which blended so well on his towering hickory background that he kept you busy trying to separate him from gray bark scales and natural bumps on the limbs. He cleverly excused himself from all silhouette advantages and finally sent you stomping off in defeat when he disappeared in a cavity and refused to show a whisker thereafter.

One person may recall a frustrating attempt to locate some partly hidden quail chicks which scattered helter-skelter along fencerow weeds in response to the mother's signal. There may be a rump, a wing, a beak show-

By Wilbert Nathan Savage



Photo by Leonard Lee Rue, III

RUFFED GROUSE'S natural colors make it difficult to see when it perches motionless among the evergreens.

ing — but where? Was the nearest minute refugee a foot or a yard away? The amount of cover actually was very meager, but the darting bobwhite youngsters scurried like two-legged bumblebees and unmistakably knew how to make use of what the occasion afforded.

Another individual may be thinking of the baffling brown creeper that behaved like a wind-tossed autumn leaf — and but for close scrutiny it might have been mistaken for such.

An extraordinary live-and-in-color example of natural camouflage has to be the fawn of the white-tailed deer. Its spotted coat duplicates the dappling of light and shadow filtering through woodland foliage. Hugging the ground, motionless, the fawn not only blends with his sun-flecked surroundings in almost magical fashion, but he also has the added gift of being virtually without a trace of betraying body scent. The color scheme of the

fawn, as in certain other mammals, does not depend on hue for effectiveness, but rather on merging tones and patterns.

The woodcock relies so completely on the infallibility of his protective coloring that he'll sometimes allow you to step within a few feet of his body and still refuse to be flushed. If and when he does decide to catapult himself into the air, you'll glimpse the russet and velvet brown colors, with just a token of black and a few winks of white. The representation could be any mixture of October's many mottled colors. Or a wisp of twilight from the trieky shades of dusk. For like the shy whippoorwill, Mr. Woodcock not only is fitted with a plumage pattern that is difficult to notice by day, but also enjoys the extended advantage of artful outline deception after sunset. Like a dizzy moth the bird retreats into fading light, and its indistinct flight seems as eccentric as it is mysterious to the puzzled man stumbling through deepening shadows.

The natural color-and-pattern heritage of the ruffed grouse commands a *par excellence* rating for effectiveness. Even when astir in the woods the canny bird, with moderate backdrop equity, will often give you a lesson in hard-search neck-eraning. And the nesting female is so well camouflaged that sharp-eyed hawks may frequently fly overhead and fail to spot her.

Grouse Have All Chips

Writing in an outdoor magazine a quarter of a century ago, one seasoned grouse hunter made this apt observation: "Ruffed grouse have all the chips stacked on their side. For one thing, their reddish-brown jackets blend perfectly with the alder thickets, aspen-birch ridges and spruce edges which they find so attractive. Chances are you'll walk past more than you'll ever spot on the sit. . . ."

Although the cottontail rabbit may not be especially adept at showing off his wit and talent, he's certainly no novice when it comes to practical

utilization of his protective color. Sitting tight in a drab briar thicket or patch of dead grass—flat, rock-still, and at last overlooked—he has allowed many a hunter to do just about everything except tread directly on him. Adding to his triumph, with the wind in his favor, Br'er Bunny has also managed to remain unnoticed by countless dogs who happened to pass so perilously close that disclosure of the successful ruse could only have brought painful chagrin to the hunter and the original hangdog stance to each foiled hound.

Bobwhite a Pro

The adult bobwhite is also a real pro when it comes to flabbergasting his foes with a camouflage-and-special-savvy system that seems to work equally well whether he's partially, or totally, exposed. While the bird may seem rather plump when you have him in hand, a whole covey of quail can somehow pack themselves into instant concealment—and all they need to complete performance of this miracle is a lone clump of grass scarcely larger than a Pennsylvania pancake! Oh, considerable exposure may create a formless patchwork arrangement of tails, heads, and wings; but instinctive reversion to chick-style stratagem instantly transforms the stationary birds into well-nigh indistinguishable objects wherever a tolerable degree of background color-harmony exists. But difficult as he may be to detect, for those who watchfully seek acquaintance with the chunky little whistler there will likely be rewarding glimpses of the browns and delicate buffs of the female, and the slightly darker and lighter colors of the male.

If there is one feathered resident of Penn's Woods that eclipses all others in the resourceful application of natural camouflage, that creature has to be the whippoorwill. He gives you plenty of audio in his pensive nighttime call, which may be repeated many times without pause. But on the video side—well, Mr. Will can be

counted on to shortchange you every time. His ability to fairly melt into immediate surroundings defies description. One naturalist puts it this way: "Almost never will you get a good view of the whippoorwill, for the bird's coloration matches the woodland floor so perfectly that only by accident could you tell crouching bird from fallen leaves. . . ."

How true! The bird's rusty brown feathers are heavily mottled with dusky shades of gray and black, and the whole figure seems to unite with its background so thoroughly that it becomes an elusive uncertainty, a vanishing wraith before your very eyes. Even the youngest whippoorwill chicks knowingly rely on the age-old combination of protective color and immobility to shield them from harm. This trust in an innate gift may extend to the extreme of allowing you to pick up the "frozen" chicks—if you can find them!

An especially notable type of natural camouflage has attained functional perfection in the cottontail's northern kin, the snowshoe rabbit or varying hare. In winter this little mammal's coat becomes white; in summer it is brown. Strangely, this seasonal phenomenon is regulated by the calendar, not by temperature. Scientific

WHIPPOORWILL can be seen here if you look carefully, but it could easily pass for a piece of weathered fungus.





WHITE MARKINGS on bobwhites' heads break up body contour, make it difficult to see them in normal cover.

studies have shown that the day's length governs coat changes. It is believed that the amount of light received through the eyes influences the pituitary gland, which in turn triggers into action the hormones controlling the molting cycle.

The natural camouflage credentials of yet another feathered resident may tend to suggest a paradox—this in spite of a made-to-order costume that fairly shouts its claim to patented finesse. Of course this well-dressed dandy has to be none other than His Oriental Highness—Sir Ringneck. The average observer, enchanted by a close-up view of the bird's flashy iridescent colors, may be impelled to wonder how such a strikingly visible creature can possess a single trace of coloration advantages. Well, you can bet your best hound dog that the fleet-footed trickster needs no sympathy in this department—notwithstanding your nonplussed opinion of his yellow bill and green head, his bright red cheeks, his neckband of pure white; and below a stunning arrangement of brown, gold, copper, gray, purple and black extending to the end of the long, pointed tail.

Without taking time to ponder a given situation, the novice hunter may be inclined to regard his inability to

spot a particular ground-hugging gentleman ringneck as personal failure to register Argus-eyed perception at exactly the right instant. Or he may attribute the frustrating circumstance solely to the bird's skill in hitting flawless concealment percentages. Actually, however, the very bird being repeatedly overlooked is frequently more exposed than hidden!

Many Tricks

Most seasoned seekers of the ringneck are alert to the bird's assortment of tricks. They know he can zip across a frost-nipped field affording cover scarcely four inches high and with deft precision still succeed in remaining totally unseen. They know the cackling genius can effortlessly shade himself into the autumn landscape and move like a phantom—with head and tail carried low, and with legs bent to flatten his profile. They know he can be a swaggering loudmouth one minute; a secretive out-of-focus deceiver the next. They know that instinct seems to be his subtle guide to the type of cover best suited to harmonious acceptance of his complex color pattern: Whether moving or stock-still, there seems always to be a natural backdrop ready to graciously unite with him with assorted ground-cover tones . . . ready to receive him into autumn's magic cradle.

It must generally be agreed that nature reserves her best and most extensive camouflage artistry for the numerous creatures having little or no means of defense. But the pendulum does swing in another direction. In the ancient program that strives to balance and regulate numbers, the hunter

**The Game Law
Violator Is
Stealing From
You!!!**

as well as the hunted sometimes enjoys natural disguise.

The weasel, dressed in his elegant light suit, the snowy owl—these and other predators can more easily approach their prey because white fur or feathers erase or minimize what otherwise would be a clearly visible outline on winter's landscape. Adding further to the advantage of the weasel, he is able to change to a darker color at winter's end. Like the snowshoe rabbit, the weasel's color change is controlled by the day's length.

In March or April new dark hairs start to appear on the weasel's white back, gradually extending down the flanks until its upper parts are brown. The belly stays white. In October, as the days grow shorter, the reverse molt begins and white hairs start replacement of the brown, working their way up the sides and spreading over the back, giving the slender mammal a spotted or streaked appearance. By November the switch to winter white has been completed.

The evolving mechanics and technique of protective coloration capably apply benefits over a broad range wherever favorable surroundings occur—and how mysteriously often appropriate background colors and patterns seem to be present!

PTARMIGAN'S protective coloration makes him nearly invisible in snow-covered woods of the north.



NESTING WOODCOCK could pass as a nondescript cluster of woods litter. Even its bill resembles a dead stick!

Reflect a moment on the umber shades that are found in the natural habitats of various common creatures—the napping woodchuck that seems to fuse with his setting of overripe grasses; the full-grown motionless deer cast against the texture of mingling tans and browns of thicket growth; the suspicious chipmunk hunched amid a harmonizing mixture of forest debris; a sora rail standing statue-still against a hodgepodge screen of marsh reeds.

Not many miles away a red-backed mouse melts with casual ease into the security of russet leaves; a red-eyed vireo, dressed in olive green, is fairly absorbed by the bright foliage of hickory and birch and maple; a mallard hen contrives resemblance to a matted mound of the very lake shore growth in which she is poised for flight; a dozen school children on a nature hike pass a little brown bat clinging to a matching fragment of tree bark, but the winged mammal escapes notice. Sparrows, wearing brown and buff and gray, become flitting illusions in the sunlit grass; a killdeer huddles on her nest and somehow doesn't resemble a bird at all; a bittern "freezes" in wetland vegetation, bill pointed skyward, and does a very convincing job of looking like an upthrust tangle



YOUNG RINGNECK is difficult to spot when motionless, and old ones—despite gaudy colors—can become invisible on a billiard table, many hunters claim.

of drab swamp grass. Hen pheasants squat low in clumps of fall ryegrass and remain stone-still while an unsuspecting countryman leisurely strolls by. A hermit thrush, soft brown topside and spotted on the breast, sings up a storm close by—but simply defies detection. At other times and other places a sandpiper, a snipe, a brown thrasher, a night hawk, and a chimney swift offer positive certification of their natural camouflage endowments.

Subject-and-scope illustrations could go on . . . and on. . . .

Just how effective is protective coloration when wildlife is pitted against wildlife? In one actual controlled study of the benefits of nature-designed camouflage, deer mice were placed on dark and light backgrounds in a room which shortly became an experimental feeding ground for barn owls and short-eared owls. The owls, did, indeed, do what was expected and took more of the mice which did not blend with their backgrounds.

Although tailor-made natural camouflage is present worldwide, we need not journey to far places in order to locate fascinating representative specimens: we have them right here within Keystone boundaries.

A Beguiling Camouflage Scene

One seemingly contradictory camouflage principle involves the use of dark and light marks placed close together. One might think that this would only serve to make an object more noticeable. Not so. Man has learned directly from nature how to use this deceptive pattern arrangement for military and other purposes. He may paint twisty curlicues or zig-zag stripes on various installations for one reason only—to break up a recognizable outline. Bold examples of this scheme among wildfolk points to the stripes of the zebra and the tiger. A quest much closer to home would lead to such creatures as the killdeer and its display of black bands across its white breast and the white ring around its neck. We could also include the downy and hairy woodpeckers with their vertical inlays of white; the contrasting marks of the black and white warbler; the mallard drake and the kingfisher with their white neck rings; and even the black-capped chickadee shows abrupt breaks in its outline. So does the yellow-bellied sapsucker. The summer plumage of the bobolink has curving white inserts, and the white on the head and throat of the male bobwhite definitely interrupts the solid-figure contour.

This principle of creating the illusion of body separation is called “ruptive marks,” and it is present in varying degrees among many other birds. Actually, this nature-invented system may produce the impression that a bird is broken into several pieces or that its head has been cut off. Continuity of form is thus destroyed and the eye of the viewer is attracted to one part rather than to the bird as a whole. Indeed, the object stands a very good chance of looking like “something it ain’t.” Nature’s long-practiced craft is therefore able to transform that which appears conspicuous into a shape that is at once perplexing, indefinite, and capricious. In other words, no matter how contrary to popular logic the plan may seem, it has something quite commendable going for it: it works!

Insect Collecting

By Raymond Schuessler

WE ARE constantly at war with insects. Insects are responsible every year for enormous losses in terms of disease and destruction of food, clothing, and other materials of value to man. To combat them effectively, we should know the habits and characteristics of all insects.

It may come as a surprise to many in this scientifically advanced age, but according to British zoologist Dr. C. B. Williams, although we have catalogued about a million species of insects, there are at least two million more about which almost nothing is known.

We can learn much from the lowly insects. Scientists know that some insects have developed "early warning systems" against aggressors, and such arts as agriculture and architecture were practiced many millions of years before man appeared on this planet.

There is a great opportunity for all outdoor people—youngsters and oldsters—to contribute some knowledge to science by collecting and preserving insects. The habits of one kind of insect may be decidedly different from those of another very similar in appearance. For this reason we must obtain definite information about each species.

PALES WEEVIL (*Hylobius pales*).



We have to be constantly alert for new pests and new outbreaks of old pests, and to do this we must be able to distinguish between insects that are injurious and those that are beneficial to human welfare.

A LEAF BEETLE. Length, about 9½ mm.



Increasing knowledge of the damage done by insects and, especially, recent discoveries concerning the role they play in the transmission of animal and plant diseases, prove the necessity for correctly identifying these pests.

Because the correct identification of insects is seldom easy, it is important that specimens be preserved in as good condition as possible. The identification of a particular species of insect usually requires examination of minute details of its anatomy with the aid of a magnifying glass or microscope.

Most collectors will find it best to concentrate on one or two of the major insect groups. There are so many insects—more than 80,000 kinds are known in North America alone—that it is scarcely possible for one person to assemble a collection that includes examples of all those occurring in even a simple locality.

The collection of specimens, in itself, is not enough. Information about them is equally important. The outdoorsman can observe and record interesting facts about the habits and life histories of the different insects found, for in this way he may add important details to the growing store of knowledge.

need several of various sizes. They should have tight-fitting corks or caps. Various chemicals may be used for killing agents.

Aspirators

The aspirator or suction tube is a handy device for collecting insects from either the net or directly from



THE MASKED HUNTER (*Reduvius personatus*).

Equipment

The equipment needed doesn't have to be elaborate or expensive. Much can be bought from commercial supply houses who will send catalogs on request.

Some items can be built at home. The insect net consists of a bag hung from a metal loop attached to a handle. The net can be made of a silk bolting cloth, which is very strong and comes in meshes of various sizes. The bag for any net should be long enough so that the tip may be flipped over the rim of the wire loop to form a pocket from which the netted insects will not escape.

When the insect has been captured, insert the killing bottle into the net and allow the specimen to drop into it. While the bottle is still in the net, cover the opening until the specimen becomes stupefied.

Killing Bottles

Any glass jar (pickle, olive, etc.) with a wide mouth is fine. You will

under stones, bark, leaves, etc.

Sifters

Many insects spend time in ground litter and leafmold and cannot be captured by ordinary collecting methods. Thus, a sifter has to be used. Almost any container with a wire-mesh bottom will do. The size, of course, must hold the insect sought. Place the ground mold or leafmold in the sifter and shake.

Baiting

Baits of many kinds are valuable aids to the collector. One of the best known is "sugaring." Make a mixture of molasses or brown sugar or fruit juice and daub it on tree trunks. Investigate later.

Rearing

Whenever possible the collector should rear insects. Such specimens will be in good condition and offer a chance to make valuable notes on the biology of the species being reared.



A GROUND BEETLE (*Harpalus pennsylvanicus*).

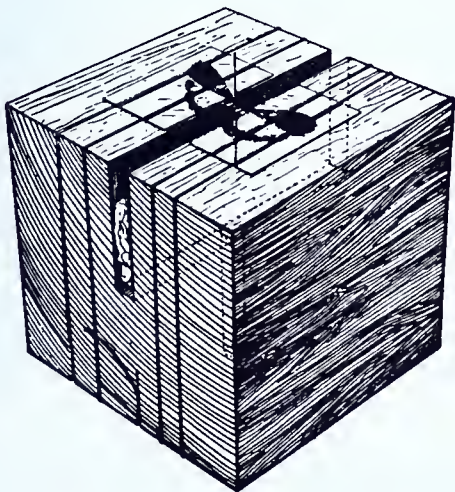
Preserving

The best general liquid killing and preserving agent, which should always be used unless some other is recommended for a specific purpose, is 75 percent grain alcohol.

Mounting

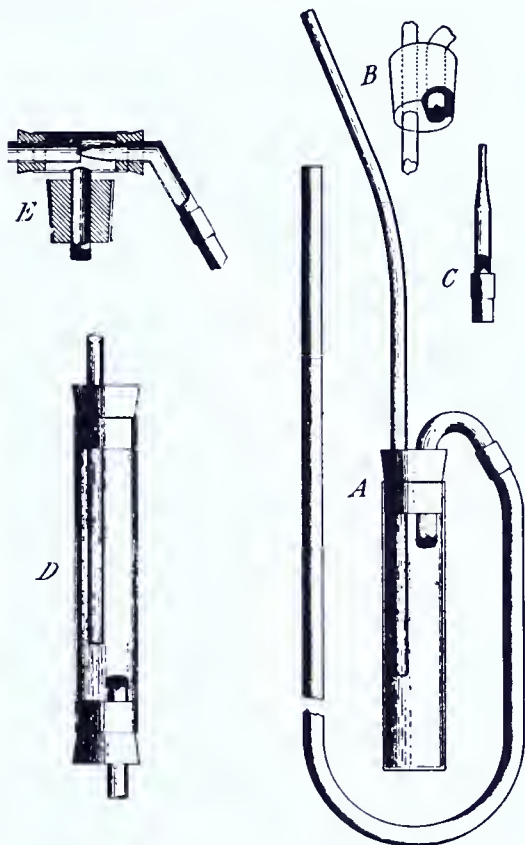
Collected insects should be mounted; their value increases with the convenience with which they may be examined and compared with similar or related species.

DETAILS SHOWING construction and use of spreading block for small insects.



Insect pins can be bought from supply houses in numbered sizes and different lengths suitable for pinning various sizes.

You will need a spreading box or board. This should have grooves of different widths to accommodate various size insects. Learn how to pin each species properly.



A—ASSEMBLED aspirator; **B—details of** stopper assemblage; **C—attachment for** collecting tiny insects; **D—body of tube** type aspirator; **E—blow type** aspirator.

Labeling

All specimens should have a label containing the following information: Locality where found, date, and food plant or material from which captured. Additional data should be put on a file card.

Who knows but that your hobby of insect collecting might some day contribute valuable information to the science of entomology?



Speedy Yonny and
Annabelle, 12-19-40.

Some Other Dogs I've Known . . .

By Bob Latimer

TO THOSE OF YOU that have hunted a lot over a lot of different dogs, am sure you have seen most every one of them do certain things that made you wonder just how much reasoning power a dog really has. Little things one dog would do, something else another one would do at times which made them stand out in one's memory. I can remember little things about quite a few of them that are interesting and pleasant to recall.

For instance, Brownie, my first braggin' dog, a big orange-and-white setter, would false point once in awhile. Along in the afternoon, maybe I was a bit tired and coming down an old logging road grade, with Brownie trotting ahead, using his nose from side to side. He might climb up the steep sidehill a ways and come to a point. I'd stand still and watch him a minute. If the grouse had moved on, he would break his point and move on. But if the bird was there, after I had let him stand a little and hadn't moved up to him, he would slowly turn his head a little to look back at me, as much as to say, "I've got her pinned down, come on up." I know that most bird dog men wouldn't think much of this, but it seemed to work all right between us, and that's all that counted. He also could remember places where he had found a covey of grouse some days before. Often, I've noticed him to perk up coming to such a place, go over and give that place a little extra looking over. You could definitely see his extra interest in that patch of laurel or hemlocks.

Rose, a liver-and-white pointer, was soft mannered and if you cut a switch when she had done something that warranted it, she was already half whipped. She would do almost anything to beg off and at times would feign injury. One time on the side

of Bear Mountain below Forksville, Col. W. C. Fisher, Col. Lynn G. Adams and I were hunting grouse with her. She went up a steep pitch and as she broke over on the bench, she bumped four or five grouse in a bunch. The wind might have been bad for her and it might not have been her fault. At any rate, I thought it was at the time, so I set my gun down and called her in while I cut a switch. She knew what was going to happen and started to limp badly on one hind leg — it even looked as if her leg might be broken, for she really did put on an act. Had I not seen her start her act, I might have thought she was hurt. Three or four good whacks with the switch seemed to be enough. I then looked her foot over to see if she might have picked up a thorn. She hadn't, so sent her on and she traveled well, proving it was all an act to try to avoid punishment. My partners seemed to enjoy her show more than I did.

Came to Get Us

Another time, John Annable and I were hunting woodcock at the mouth of Scar Run on the 'Sock. Rose had gone into a patch of glassweed that had a wash running through it. We hadn't seen her come out the other side and stood there, wondering if she had gotten out of there without us seeing her or if she might be on a point. We stood there talking about it, probably longer than we should have, I guess, 'cause Rose tiptoed back out to the edge and looked at us, then turned carefully and went back in. We then realized she must have a bird there, so we moved up. Sure enough, she had one pinned down. We shot the bird when it flushed and she brought it to us, acting quite pleased with the deal. John often mentioned

this afterward — how she had come back out to get us.

Allen Osborne, a guide I hunted with sometimes, broke a yellow Lab one fall that he called Annabelle. I didn't hunt over her that year, but could see him work her from the blind I was hunting out of with Bob Midgett. A lot of the area was shallow water with soft mud underneath. It was hard going for a dog and sometimes it took quite a chase to get a wing-tipped goose. When Annabelle would get to a goose like that, she would paw it over till she could get her mouth over both wings at the base. In this way she could bring it back without getting beat over the head by the wings. I thought this was really using her head. Allen told me that he had gone out with her a couple times to help her get such a goose, showed her only a time or two, and she did it from then on. If she had run a goose quite a distance to get to it and was tired coming back, she would lay it down and hold it with her feet while getting a rest, thus she was able to pick it up again in the same way to come on in.

Nicest Offer

Later on, "Speedy" Tummel, another guide, acquired Annabelle and I enjoyed shooting with him and Annabelle several falls. She really was a wonder and one of the best retrievers I ever saw. Speedy knew I thought a lot of Annabelle and he wrote me early in 1942, saying he intended going to Norfolk to work in the Navy Yard and would send me Annabelle if I would give her a good home. I had to tell him that I was going into the service and couldn't accept her, much as I would have liked to. Don't know how Annabelle finished out, but hope it was on the marshes with someone that appreciated her. Speedy's offer touched me deeply. It was by far the nicest offer any man ever made to me.

Pal was a chocolate-colored Chesapeake female that belonged to Jim Berrier, who then lived near Rockville

and hunted the Potomac. Jim used to come up to Sullivan County to hunt woodcock in the fall and then after deer season I would go down and hunt duck with him for a week there. Jim had a blind on the tail of a little island out from the old Butterfield Locks, maybe 15 miles above Great Falls. He had fixed a hole in front at the bottom of the blind. Pal could sit in the blind, watch out the hole and get out after the shooting was over, if anything was down. About all the hunter had to do was to watch her tail. If a wing showed in sight, she would be wiggling it.

Doze a Bit

Sometimes along in the afternoon, if nothing was moving and maybe the sun shining in sorta warm, Pal might doze off a bit. If Jim noticed this, he would sharply call, "Mark!" Pal would come to and almost unjoint her neck twisting around to see what might have sneaked in on her, and then look kinda foolish at us.

Pal would retrieve two ducks at a time and try to bring more if they were there. One time I raked a bunch of mergansers that swung over the blocks quite tightly bunched and rolled five of them out. The river was quite high and fast, except in the little eddy where the set was. Pal grabbed two of them and went for another that had hit the current. In trying to keep the two and get this third bird, she got down the river quite a ways, so we took the sneakboat to pull her in. She was still trying for this third bird when we got to her. We marked her AA for Effort on that deal.

Jim insisted I take her along to Currituck one fall when a bunch of us were going down. I didn't like to do this, but Jim insisted. He said we had hunted together enough so he knew Pal would be okay with me. He also said that Pal liked to hunt just as well as I did, so why not take her? Anyhow, he convinced me and Pal went along for a week. She acquitted herself with credit, and the rest of the

crowd was as fond of her as I was by the time we returned.

Nellie and Ranger were a pair of hounds that Nim Case of Troy owned. Nellie was a good-looking Walker, Ranger was lemon and white and looked as if he might have a little pointer in him. They were good on bear and we hunted them quite a lot—this was back in the days when it was legal to run bear with dogs. They could work out a cold track and make most bear think it was wise to climb after they caught up to him. The only fault I knew them to have was that they didn't know enough to quit at dark on a bear that wouldn't tree. They would stay with a bear for several days—and did on several occasions. They had teamwork down to a capital T.

One time Nim and I had put them on a bear several miles up a hollow from Lycoming Creek, above Roaring Branch. We had run this bear about 10 days before this and it was one of those that just wouldn't tree. He made it across Lycoming Creek and into the Rock Run country, where we got the dogs back from several days later. This time when we jumped him, Nim followed the dogs on the chance they might be able to stop him, and I ran

for the railroad along the creek, where we had crossed the time before. It was several miles but I was tough and could run then. With the dogs stopping him several times, but breaking before Nim could work his way in, I made it to the crossing ahead of them.

About as quick as I got my wind back, I could hear them coming. I saw them cross the highway and the creek, coming across the flat right toward me, all of them walking. It was warm. All three had their tongues out, one dog on each side, even with the bear's hind quarters. A horse blanket would have covered all three of them. About every 20 feet one dog would nip a leg, then the other would do the same a little farther on. About all the energy the bear had left was to swing his head toward the dog that had bit him. They team-worked this bear all the way to me and he never did see me till he was within about 20 feet, and then it was too late. When he fell, he almost rolled on one of the dogs.

Could go on like this for quite awhile, but if you have had patience enough to read this far, you will agree that some dogs do use their heads more than sometimes they are given credit for. Anyhow, I've had a lot of fun watching them do it.

Fifth Turkey Calling Contest

The fifth annual Pennsylvania State Turkey Calling Contest will be held August 23 at 1:30 p.m. EDT at the Franklin County Fair. This contest, sponsored by the Franklin County Federated Sportsmen, has given many Keystone hunters the opportunity to learn various methods of turkey calling—an ability which has become particularly important since the introduction of the spring gobbler season in Pennsylvania. Everyone is eligible to compete in the contest except a caller who has won two years in succession; such winners are again eligible after a one-year waiting period. There is no entry fee. Scoring is based on four calls—the pert, yelp, whistle and gobble. Judges are Gene Nelson, superintendent of the Game Commission's wild turkey farm; Roger Latham, outdoor writer and recognized authority on wild turkeys; and Bill Britton, longtime turkey hunter. The fairground is located near Williamson on Route 995, about twelve miles southwest of Chambersburg.

There Goes Another Theory

The raccoon dips its food in water to facilitate digestion, not to wash it. The animal has poorly developed saliva glands.



MIKE KOCHER aims at and collects chuck. Earl Hock, bottom, takes long shot with his 6mm Gibbs.



FITTED SANDBAG r
shall's 22-250 Savage a



Hunting Pen

FROM SPRING until early awaiting the start of small about autumn's arrival. These those precision riflemen whose at a range so far that they w when describing it! While ser basement, meticulously assem stamp at 200 yards, or else reb rifles to tighten groups even searching distant hayfields and scopes. When a chuck is found ever rest is available to aid the where they want it. Though stalking method, they are rifle



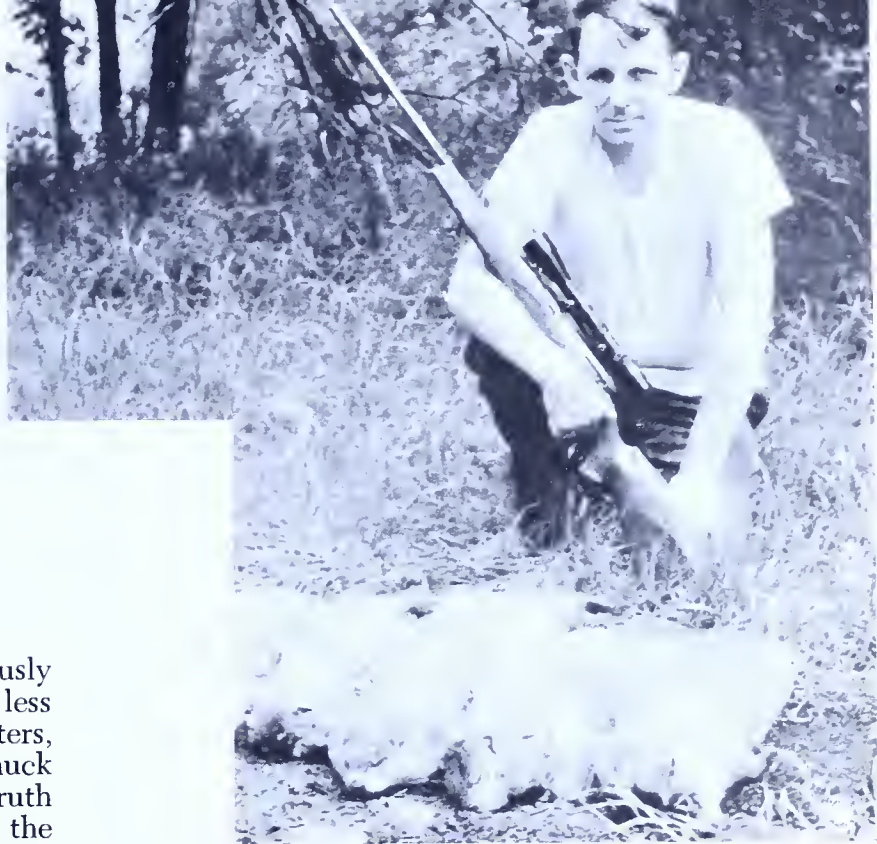
DAN SHAFFER PROUDLY DISPLAYS
Andy Hufnagle and Mike Kocher don't



ent rest for Ted God-
es for 350-yard shot.

nia Chucks

keystone hunters are anxiously
n, but some couldn't care less
onfirmed woodchuck hunters,
sh is to connect with a chuck
e tempted to stretch the truth
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oads that will hit a postage
barrels of their super-accurate
ry spare day is spent afield,
with binoculars and spotting
vely identified, they use what-
g a high-velocity bullet exactly
t "hunters" in the traditional
highest rank.



JOE MARSHALL found 257
Weatherby Magnum fine on Sus-
quehanna County whistle pigs. Be-
low, Jim Quigg displays the final
woodchuck of the day.



sk he bagged in Columbia County, but
impressed!





FIELD NOTES



Thanks

BUTLER AND LAWRENCE COUNTIES—I wish to express my thanks to the members of the Soil Conservation Service in Butler and Lawrence Counties for the wonderful cooperation they have given us in the development and plans on our Game Lands in these two counties.—Land Manager W. E. Portzline, Slippery Rock.



Poetic Justice

SULLIVAN COUNTY—On May 10, just after daybreak, I came upon a vehicle stopped along Route 42 between Eagles Mere and Laporte. Standing outside the vehicle were two men examining a shotgun which had a broken stock. Seems that a turkey ran across the highway in front of these two men and in their haste to get out of the vehicle and get the bird—the land on both sides of this highway is posted against trespassing—one man tripped and fell on his gun, smashing the stock. Needless to say, his entire day of hunting was ruined by an illegal act, not to mention the cost of a new stock for the shotgun.—District Game Protector D. J. Adams, Eagles Mere.

Tell It Like It Is

BERKS COUNTY—For some time I have believed it is best to tell youngsters the truth about the harsh life of some species of wildlife rather than the “Bambi” picture that many people have. However, when showing some of our films, in which natural predation is shown as one of the hazards of wildlife, the reaction of the audience sometimes makes you think it might be better to let them go on thinking that all is tea and roses in the wild. Recently, at a program for third graders, I was showing a film on the cottontail in which a snake takes a nest of young rabbits. There was much comment at this point (including some from the teachers), although before showing the film I had explained the rigors of survival of wildlife. After the program was over, one little girl came up to me and said, “Mr. Bittner, that was the best movie I have ever seen.” At least half a dozen of the boys and girls asked me if I would come back with other movies of the same type. Apparently, children are receptive to this type of film and appreciate factual accounts of life in the wild.—CIA L. E. Bittner, Leesport.

Probably

ARMSTRONG COUNTY — Don’t get me wrong, I’m not complaining; but something strange is happening in Armstrong County. My neighboring officer, D. C. Madl, picked up about 15 road-killed deer this month and I didn’t have one. There has to be a reason, and it is going to take some studying on my part to figure it out. Could it really be that my deer are better educated?—District Game Protector R. H. Muir, Kittanning.

Got His Eye on Elmer

ERIE COUNTY—I recently stopped to see a landowner in the Safety Zone Program. He was quite pleased with the signs and service furnished but accused me of “goofing off” because he did not find a field note written by me in the last issue of **GAME NEWS**. —District Game Protector E. Simpson, Union City.

Don't Scare Him!

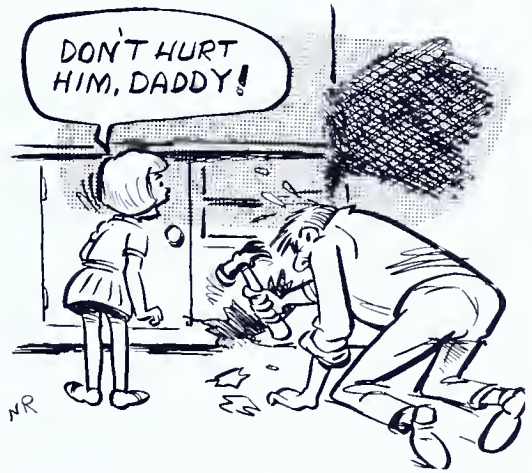
JUNIATA COUNTY—George Naize of Star Route, Mifflintown, has a large white oak den tree directly across from his front porch. The gray squirrels use it for a home and he enjoys watching them at play. Early one morning he heard a gray squirrel causing quite a fuss. It ran out of one hole and then quickly up to another one. There it waited still and quiet. Then George saw it make a quick grab at something with its teeth, then scamper away. Within a few minutes he observed something stirring at the hole and then down from the tree fell a four-foot black snake. Mr. Naize found the small teeth of the squirrel had pierced the backbone of the snake causing its death. Quite a turnabout from the usual outcome. — District Game Protector R. P. Shaffer, Mifflintown.

And What Did the Bird Think?

ERIE/WARREN COUNTIES—Trooper Eberhart of the Corry State Police Barracks told me that while on patrol he spotted a male pheasant strutting down the road. When he stopped to look at the bird, the pheasant started running toward him. He then backed up the car and the bird still ran after the car. Then forward with the car and the pheasant ran after him in that direction. After five minutes of this the trooper left, wondering what kind of a crazy bird this was.—District Game Protector G. Gibson, Corry.

Out of the Frying Pan . . .

FULTON COUNTY—I have been observing feeding deer and note that they are constantly tormented by flies and other biting insects during late spring and summer. An examination of the ears and noses of road-kills reveals the torture they must endure. I believe that this accounts for many of our road-kills during this period. By coming into open fields and valleys they get away from insects to a large extent.—District Game Protector C. E. Jarrett, McConnellsburg.



But You Told Her, Dad

HUNTINGDON COUNTY—While I was on the telephone one evening, my daughter Melodee said, “Daddy, there’s a little bunny in our basement window well.” I told her to remove it and bring it into the house. I intended to release it later in a suitable location on an adjacent property. That’s when my problem began. The bunny was released all right, but in the kitchen, and in some manner it found the only 1- x 2-inch crack in the kitchen cabinet base. One sabre saw, two hours’ time, and two base cabinet sections of new kitchen cabinets later, the rabbit was released in its intended location. Again the moral of the story is: Leave wildlife alone, Melodee! — District Game Protector R. D. Furry, Huntingdon.



By Any Other Name . . .

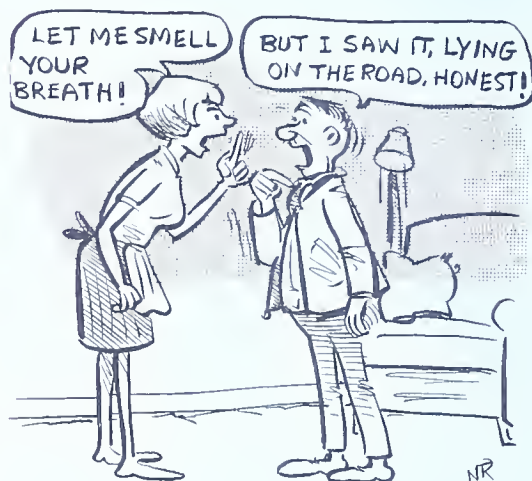
PHILADELPHIA COUNTY—Deputy Mike Evangelista and I were checking some foreign born applicants for resident hunting licenses, to ascertain if they were naturalized. The first home we stopped at had a garage and laundry in the basement. As Mike and I approached and started to question the lady who was washing clothes, an older lady rushed down the stairs, took a look at our uniforms and shoulder patches, and hurried across the street speaking rapidly in Italian. I looked at Mike, and he had a grin on his face from ear to ear. I knew he could understand a little Italian, so I asked him what she said. His reply broke both of us up. He said she had taken a look at our keystone-shaped shoulder patches and rushed off muttering, "The Keystone Cops Are Here!"—District Game Protector H. T. Nolf, Telford.

Got the Formula

POTTER COUNTY—While distributing hunter safety cards during the spring gobbler season, I talked with one gentleman about his success. The man said that he hadn't gotten a gobbler yet but that he was enjoying himself more than ever. He said, "I hunt gobblers in the morning, fish during the day, then go out after woodchucks in the evening."—District Game Protector D. W. Jenkins, Galeton.

Well . . .

ALLEGHENY COUNTY—Some of the lighter moments on this job come when thinking back on things that happened at times when we're too busy to see the humor. One such time was when I picked up a man on a warrant from a northern county. After I found him, the police told me they were sure that he was wanted by the FBI and was to be considered dangerous. I can still picture the man now, sitting in the front seat of my car, handcuffed behind his back, on the way to jail at 2:00 o'clock in the morning, saying, "Do you suppose this will hurt my chances of becoming a Game Protector?"—District Game Protector R. B. Belding, Baden.



Sure Was!

BLAIR COUNTY—While on patrol recently, I noticed a man standing along a dirt road looking down at a snake. I stopped and he said "Look at that, ain't that something?" I looked closer and found that some practical joker had cut off about half of the snake and thrown it away, then stuck the other cut-off end in the snake's mouth and laid it along the road. The gentleman shook his head and said, "He sure must have been hungry."—District Game Protector J. A. Lukas, Hollidaysburg.

Dedicated Group

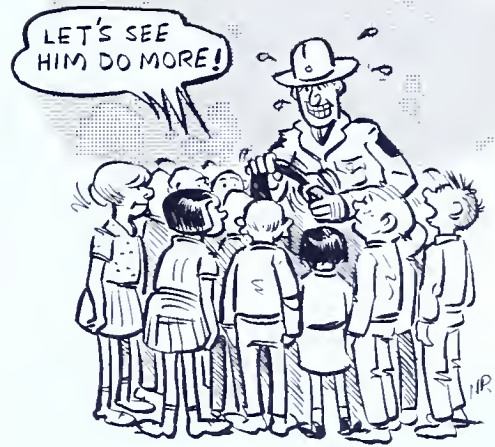
BEDFORD COUNTY—I recently had the opportunity to be an instructor at a Deputy Class held at the Game Commission Training School. These men gave up a week of their time and their vacations in order to attend this school. They received no pay for attending. These Deputy Game Protectors did this so that they would be better able to serve in a position for which they receive little pay and sometimes quite a bit of criticism. I personally feel that as long as we have men of this caliber dedicated to conservation, the state of Pennsylvania will continue to be a leader in this field. — District Game Protector C. J. Williams, Bedford.

Compensation

CLARION AND JEFFERSON COUNTIES—While checking spring turkey hunters on the first Saturday of the season, I talked to one hunter who told me he had not seen or heard any turkeys, but had observed something much more exciting, a doe with her twin fawns. What thrilled him most was that one fawn was pure white.—Land Manager J. M. Lavery, Clarion.

Too Many

BERKS COUNTY—A sheep farmer in my district told me of a golden eagle in the area and said that one day while on an errand in a back field he observed the eagle feeding on a dead lamb. He said he was quite alarmed at first, but remembered he had seen a couple of sick lambs in his flock the day before. He checked, and sure enough, all the lambs were present but the couple sick ones which had died during the night. Obviously, the eagle had found the dead lamb and was making good use of it. I wonder how many people would have shot the eagle first and investigated later.—District Game Protector J. K. Weaver, Kutztown.



Above and Beyond

FOREST COUNTY—While giving a talk on snakes at the Brookville school, an aggressive black snake latched onto my thumb. All the children in the group wanted to see the snake chew, so I let them take a look. The snake also put on a good show by continuing to chew until I forcefully removed its jaws from a very bloody thumb. The way it was working at it, I believe it was trying to swallow me whole.—District Game Protector D. Gross, Marienville.

The Other Side of the Picture

LEHIGH COUNTY—Recently, one of my deputies was out with his family for a picnic along one of our streams. He looked into the water and saw a large number of beer cans. On the other side of the creek, apparently spending the night, was a group of "hippies." The deputy felt that if he watched awhile, he might find them in the act of littering the stream. Very soon, all of the group had gotten up and started to stir around. Shortly, one of the group began to shout about something, and the rest followed him down to the creek. Then all of the group pitched in and cleaned up several hundred yards of the stream that had been littered—quite a pleasant surprise to the deputy.—District Game Protector J. R. Fagan, Allentown.



Naturally

TIOGA COUNTY — One Sunday afternoon while sitting in the living room, I was interrupted by my three-year-old son shouting, "Dad, there's a hawk outside!" Considering his limited experience, I asked how he knew it was a hawk. He immediately responded with, "Because it went awkward."—District Game Protector D. W. Brown, Mansfield.

Experience: A Tough Teacher

BUTLER COUNTY — Several local boys found out the hard way that it does not pay to drive through a farmer's fields. The boys spotted a deer out in the field and decided to chase it with their car. However, unknown to them, a cut for limestone had been taken through the center of the field years ago and never filled in; the farmer had just farmed around it. It resembled a huge ditch which was in places about 30 feet wide and 15 feet deep. The deer at full speed jumped the cut; the car tried to. Result: One late model car totally demolished, five boys hospitalized with various cuts, bruises and a few cracked ribs, one driver fined for driving fields, one farmer with tongue in cheek—and one deer with the horse laugh.—District Game Protector Ned Weston, Boyers.

That's Gratitude

VENANGO COUNTY—During the past spring gobbler season, two Oil City area brothers hiding in the same fallen treetop each bagged a nice gobbler. During the 1968 spring season a third brother killed his gobbler, also while hunting from the same treetop, to win a Triple Trophy Award. It was I who suggested this area to them as a good turkey region. But now they won't tell me where their treetop is located. — District Game Protector L. Yocum, Oil City.

DGP Philosopher

LACKAWANNA COUNTY—Space age technology, in combination with ever-increasing numbers of people, wealth, mobility and leisure time, appears to pose a threat to geographical areas which heretofore were separate and distinct. Also eminent is a threat of losing the integrity which gives the individual a distinctiveness of identity and his ability to meet the world on a first person basis. He who is cognizant of these conditions, who withstands the pressure, will have his own place. He need not be isolated, nor withdraw from society. However, he must provide himself with a place whereby he may move freely, and think freely, in congenial surroundings, to cultivate inner enlargement and maintain his identity. If his place is eroded, he will deteriorate. If it is lost completely, he will blend into the masses. The individual will have in effect, lost his identity. . . . — District Game Protector T. C. Wylie, Moscow.

Fun? Come On, Now, Ivan

SNYDER COUNTY—

The Game Commission must scheme
To use paper by the ream,
While doing monthly reports
My waste can fill to the port;
I realize the job must be done;
So I try my best and make it fun.

By an office-weary Land Manager
I. L. Dodd, Beavertown.



CONSERVATION NEWS



Hunting Seasons, Bag Limits Set By Game Commission

A TWO-DAY bear season and an approximate 25 percent reduction in the number of antlerless deer licenses are among the most significant changes in official 1969-70 hunting seasons established on June 3 by the Pennsylvania Game Commission.

A five-week archery deer season will open Saturday, September 27; the early small game season starts on Saturday, October 18; a four-week general small game season opens on Saturday, November 1; bear season will be November 28-29; the two-week antlered deer season opens December 1; and a two-day antlerless deer season will be held December 15-16.

The two-day bear season will be the shortest on record in Pennsylvania, and reflects a decided reduction in the size of the state's bruin population, particularly in the northcentral part of the commonwealth, the state's primary bear range.

The 1966 season was designed to harvest surplus bears, and 605 bruins were taken that year. Normally, the bear harvest could have been expected to drop considerably the following year, but in 1967 a bountiful mast crop kept the bruins in circulation, and their availability made it possible for hunters to bag 568 in 1967.

The two successive years of high harvest resulted in a lower supply of the prized trophies, and since productivity in bears is much lower than most species, a short season with reduced harvest is in order for 1969.

Previously, the shortest season had been in 1935, when only three days of



Photo by Leonard Lee Rue, III

bear hunting were permitted. There was no open season on bruins in 1934.

In addition to the short season on bears this year, an individual or a hunting party of five or more persons will be permitted to harvest only one bruin.

This year, 379,000 antlerless deer licenses will be available to hunters, compared to 482,550 authorized last year. The statewide reduction reflects the desired curtailment of the white-

tail herd increase. In some counties where the deer population has decreased significantly, there is a sharp drop in the number of antlerless licenses allocated.

As in 1968, the Commission again has reserved one or two days for extension of the antlerless deer season in the event of inclement weather or inadequate harvest.

Several changes were made in connection with beaver trapping. This year no more than two 10-inch by 10-inch body-gripping traps may be set for beavers by an individual trapper. The total number of traps which may be set by an individual for beavers remains at ten.

The Commission, in explaining the

reason for the new regulation on large body-gripping traps, noted that this type of trap is exceptionally efficient, and continued unlimited use may seriously affect the availability of the fur-bearer.

In another change, the Commission may extend the beaver season in certain specified areas if poor trapping conditions prevail and the harvest of "flat-tails" is inadequate during the regular season.

The northcentral part of the state will have a four-week wild turkey season this year, while the remainder of the commonwealth will have a two-week season. A spring gobbler hunt, inaugurated in 1968 and repeated this year, will take place again in 1970.



MRS. MARILYN J. CORBETT, RD 1, Carlisle, is the first woman to qualify for a Triple Trophy Award. She took a black bear, antlered deer and wild turkey during the 1968 license year. Nearly 200 men have earned the award.

Deputy Game Protector Conservation Award Winner

One of the ten top conservation awards presented annually to non-professionals has been given to an Allegheny County Deputy Game Protector, Ralph Warren Abele. Abele, a Pittsburgh petroleum engineer, received an American Motors Conservation Award for dedicated efforts in the field of renewable resources. The award, a bronze sculptured medallion, was presented by Roy D. Chapin, Jr., American Motors board chairman, at a banquet May 21 at the Statler Hilton Hotel in Washington, D. C.

Abele was honored for spearheading an all-out conservation campaign while serving in various leadership capacities with the Allegheny Council of the Boy Scouts of America. He organized and placed into operation a full-scale conservation program for the Allegheny Council's 27,000 Scouts and 6000 adult leaders. The program includes such projects as reforestation, soil surveys, mine pollution control, stream improvement and hunter safety education.

Pennsylvania Seasons and Bag Limits 1969-1970

The Pennsylvania Game Commission, in Harrisburg on June 3, 1969, established the following seasons and bag limits for resident game and furbearers for the 1969-1970 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on November 1 will be 9:00 a.m., EST. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset, except for raccoons which may be hunted any hour and turkey gobblers (spring season) from one-half hour before sunrise until 10:00 a.m. DST. Shooting hours for migratory birds will be announced later.

SMALL GAME

Daily Limit	Season Limit		DATES OF OPEN SEASONS	
			First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 18	Nov. 29 AND
2	10	Ruffed Grouse (not more than 10 in combined seasons) ..	Dec. 26	Jan. 10, 1970
			Oct. 18	Nov. 29 AND
			Dec. 26	Jan. 10, 1970
1	1	Wild Turkey—Counties, and parts of, listed below*	Nov. 1	Nov. 27
		—Counties, and parts of, not listed below	Nov. 1	Nov. 15
		—Spring Gobbler Season (bearded birds only)	May 9	May 16, 1970
4	20	Rabbits, Cottontail (not more than 20 in combined seasons) ..	Nov. 1	Nov. 29 AND
			Dec. 26	Jan. 10, 1970
2	8	Ring-necked Pheasants, males only	Nov. 1	Nov. 29
4	20	Bobwhite Quail	Nov. 1	Nov. 29
2	6	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 26	Jan. 3, 1970
Unlimited		Raccoons (hunting or trapping)	No close season	
Unlimited		Woodchucks (Groundhogs)	No close season	
Unlimited		Crackles	No close season	
Unlimited		Squirrels, Red	All months except	
			Oct. 1-17, incl.	

BIG GAME

1	1	Bear, over one year old, by individual	Nov. 28	Nov. 29
1	1	Bear, over one year old, by hunting party of 5 or more ..	Nov. 28	Nov. 29
		Deer, Archery Season, any deer—Statewide	Sep. 27	Oct. 31 AND
			Dec. 26	Jan. 10, 1970
		Deer, Antlered, with 2 or more points to an antler or a		
		spike 3 or more inches long	Dec. 1	Dec. 13
1	1	Deer, Antlered and Antlerless, with required antlerless		
		license, buckshot and bow and arrow only in Special		
		Regulations Area listed below**	Dec. 1	Dec. 13
		Deer, Antlerless—Statewide	Dec. 15 & 16 ONLY	
		—Counties, and parts of, listed below*** ..	Dec. 15	Dec. 20
		—Bad Weather or Inadequate Harvest Ex-		
		tension—In case of bad weather or in-		
		adequate harvest Dec. 15 & 16 in		
		counties designated	Dec. 19 and/or Dec. 20	

FURBEARERS

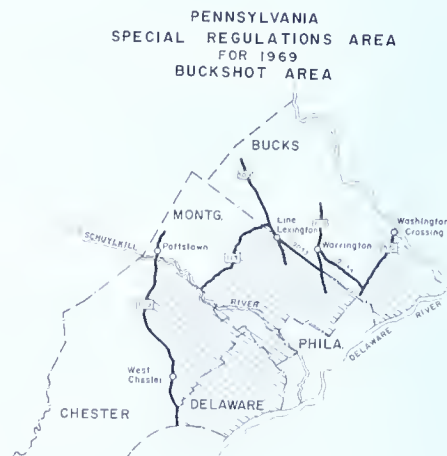
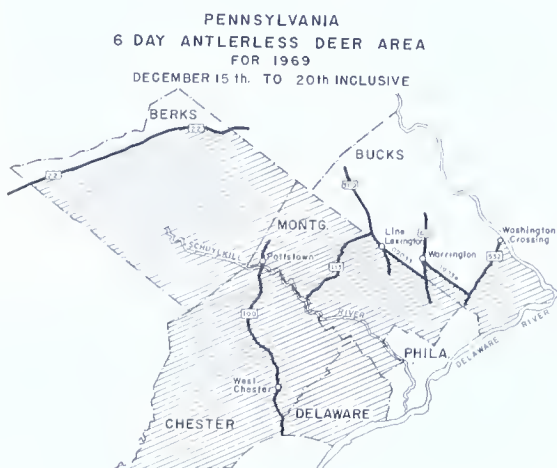
Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 22	Jan. 11, 1970
Unlimited		Muskrats (traps only)	Nov. 22	Jan. 11, 1970
			AND	
			Feb. 7	Mar. 8, 1970
6	6	Beavers (traps only)—Counties of Luzerne, Susquehanna		
		and Wayne	Feb. 7	Mar. 8, 1970
3	3	Beavers (traps only)—Remainder of State	Feb. 7	Mar. 8, 1970

NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Chukar Partridges, Sharp-tailed Grouse.

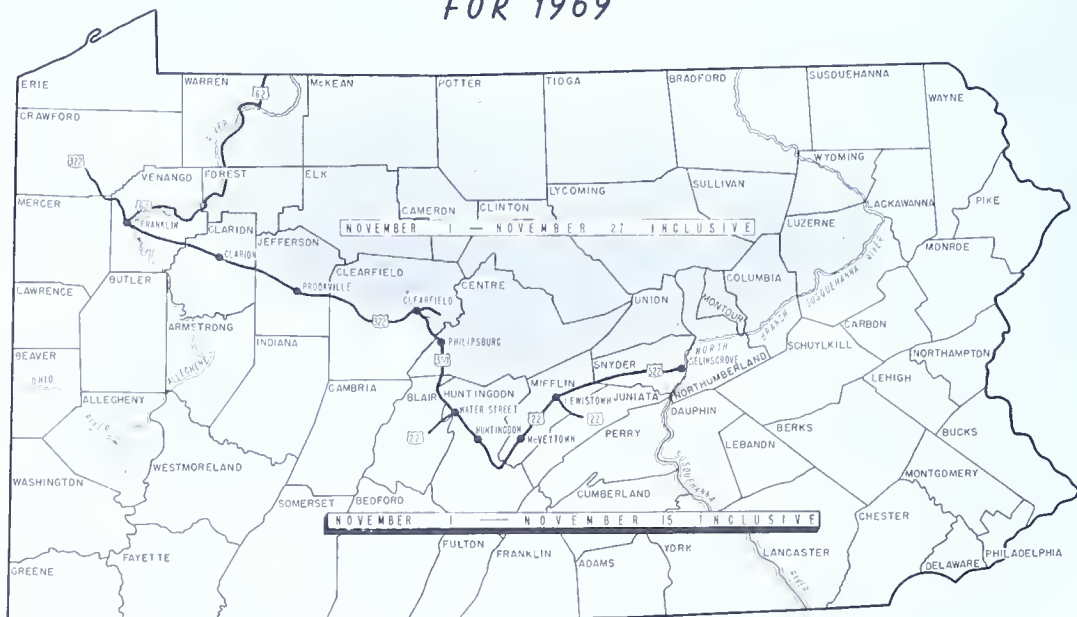
SPECIAL REGULATIONS

- * *Wild Turkey Season*—Nov. 1 to Nov. 27 in the Counties of Cameron, Clinton, Elk, Lycoming, McKean, Potter, Sullivan, Tioga, Union, and in those parts of Forest and Warren Counties east of Route 62, and in that part of Venango County south and east of the Allegheny River and north and east of Route 322, and in those parts of Clarion, Clearfield and Jefferson Counties north of Route 322, that part of Centre County east of Route 322 north of Philipsburg and east of Route 350 south of Philipsburg, that part of Blair County east of Route 350, that part of Huntingdon County east of Route 350 north of Water Street and north of Route 22 east of Water Street, that part of Mifflin County north of Route 22 west of Lewistown and north of Route 522 east of Lewistown, and that part of Snyder County north of Route 522, and those parts of Bradford, Columbia, Luzerne, Montour, Northumberland and Wyoming Counties north and west of the North Branch of the Susquehanna River.

- °° *Special Regulations Area*—Only buckshot and bow and arrow may be used for taking deer. The use or possession of single projectile ammunition (except arrows) or the use or possession of rifles or handguns discharging a single projectile while hunting or trapping at any time is prohibited in that part of southeastern Pennsylvania bounded by the following: Beginning at the Washington Crossing on the Delaware River, west on Route 532 to Legislative Route 09034 (Bristol Road), north on Legislative Route 09034 to Route 611 (Easton Road) at Warrington, south on Route 611 to County Line Road, Legislative Route 09033, north on County Line Road to Route 309 at Line Lexington and north on Route 309 to its junction with Route 113, southwest on Route 113 to the Schuylkill River, northwest along the Schuylkill River to Route 100, south of Pottstown, and south on Route 100 to the Pennsylvania line.
- °°° *Antlerless Deer Season*—Dec. 15 to Dec. 20 in the Counties of Chester, Delaware and Montgomery, and in that part of Berks County south of Route 22, and that part of Bucks County within the Special Regulations (Buckshot) Area.



PENNSYLVANIA WILD TURKEY SEASONS FOR 1969



Game Commission Declares Two-Day Antlerless Deer Season—December 15 and 16

The Pennsylvania Game Commission, by resolution adopted at its meeting on June 3 in Harrisburg, declared a two-day statewide open season on antlerless deer.

Hunters participating in the antlerless deer season must possess an antlerless deer license for the county in which they are hunting in addition to the regular hunting license. Applications for antlerless deer licenses are available wherever hunting licenses are sold. Antlerless licenses are available from County Treasurers *ONLY. DO NOT MAIL APPLICATION TO PENNSYLVANIA GAME COMMISSION OR DEPARTMENT OF REVENUE, HARRISBURG.*

Only hunters who have not already harvested a white-tailed deer and who possess an antlerless license may legally harvest an antlerless deer. Antlerless deer are those animals with no visible antlers, regardless of sex.

In a specially designated area of southeastern Pennsylvania, the antlerless season extends from December 15-20.

In the Special Regulations (Buckshot) Area, antlerless deer may be taken during the regular statewide buck season if the hunter possesses an antlerless deer license.

County antlerless license allocations are as follows:

ANTLERLESS DEER LICENSE ALLOCATIONS

<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>	<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>
Adams	Gettysburg	3,100	Lackawanna	Scranton	3,900
Allegheny	Pittsburgh	3,850	Lancaster	Lancaster	1,450
Armstrong	Kittanning	4,050	Lawrence	New Castle	3,000
Beaver	Beaver	3,250	Lebanon	Lebanon	2,100
Bedford	Bedford	9,050	Lehigh	Allentown	1,400
Berks	Reading	3,500	Luzerne	Wilkes-Barre	6,700
Blair	Hollidaysburg	5,300	Lycoming	Williamsport	10,650
Bradford	Towanda	7,250	McKean	Smethport	15,400
Bucks	Doylestown	1,450	Mercer	Mercer	1,800
Butler	Butler	3,900	Mifflin	Lewistown	6,800
Cambria	Ebensburg	6,000	Monroe	Stroudsburg	7,950
Cameron	Emporium	2,400	Montgomery	Norristown	2,000
Carbon	Jim Thorpe	7,150	Montour	Danville	1,000
Centre	Bellefonte	16,600	Northampton	Easton	1,100
Chester	West Chester	3,050	Northumberland	Sunbury	2,300
Clarion	Clarion	4,750	Perry	New Bloomfield	6,000
Clearfield	Clearfield	15,750	Philadelphia	Philadelphia	
Clinton	Lock Haven	5,000	Pike	Milford	2,250
Columbia	Bloomsburg	4,000	Potter	Coudersport	23,650
Crawford	Meadville	3,900	Schuylkill	Pottsville	15,550
Cumberland	Carlisle	5,450	Snyder	Middleburg	1,950
Dauphin	Harrisburg	4,850	Somerset	Somerset	5,950
Delaware	Media	250	Sullivan	Laporte	4,900
Elk	Ridgway	14,300	Susquehanna	Montrose	4,800
Erie	Erie	2,900	Tioga	Wellsboro	21,900
Fayette	Uniontown	4,750	Union	Lewisburg	4,300
Forest	Tionesta	4,850	Venango	Franklin	5,550
Franklin	Chambersburg	3,950	Warren	Warren	7,300
Fulton	McConnellsburg	3,500	Washington	Washington	3,600
Greene	Waynesburg	1,900	Wayne	Honesdale	7,700
Huntingdon	Huntingdon	9,650	Westmoreland	Greensburg	5,550
Indiana	Indiana	5,200	Wyoming	Tunkhannock	2,200
Jefferson	Brookville	6,000	York	York	3,350
Juniata	Mifflintown	4,100		TOTAL	379,000

Bad Weather or Inadequate Harvest Extension—In case of inclement weather or inadequate harvest during the regularly scheduled antlerless deer season, the Commission may schedule additional days on December 19 and/or 20 and counties in which antlerless deer may be taken. Announcements will be made via all news media.

Upward Spiral Halted in Size of Deer Herd

The upward spiral in the size of Pennsylvania's deer herd appears to have been halted this year, according to Game Commission field reports and observations.

High annual harvests of whitetails, particularly antlerless deer, during the past few years appear to have at least stabilized the dangerously large herd, and in a number of areas have brought about a desired reduction in big game populations.



THESE TWO FINE BUCKS were taken in Warren County by Don Huddleston and his son Dean, of Pittsburgh.

A deer under every tree might be ideal from a hunter's standpoint, but demands for land for agriculture, forestry, homes, highways, schools, etc., require a Game Commission policy which produces a desirable balance between conflicting interests. When this balance is reached and maintained, all of society benefits.

Although the state experienced another relatively mild winter this year, the natural mortality rate was the second highest in the past eight years and almost four times the previous winter's loss. Starvation was most prevalent in the northcentral part of the state.

The 1969 winter loss was not large enough to cause undue concern, but it was an indication that the herd was

larger than the comfortable carrying capacity of the range.

The spring deer population in 1969 is more nearly normal for this time of the year than in the past few springs. For some time the population of whitetails immediately prior to the birth of fawns has been uncomfortably high.

During the past few years the annual production of fawns has been larger than the annual total mortality, leading to a whitetail herd which was steadily growing larger.

Unusually large antlerless harvests in the last two years mean that fewer fawns are likely to be produced this year than in 1968. Fewer whitetails will mean less forest damage, fewer deer killed on the state's highways, lower damage to farm crops, etc.

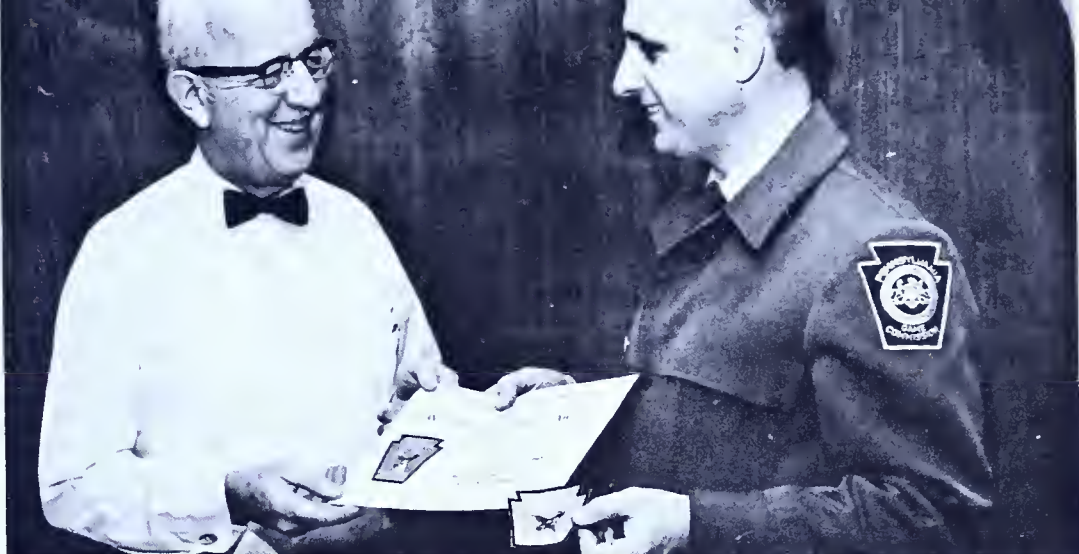
A smaller herd will also mean more food available for each deer, and this in turn produces heavier whitetails with better antler development—more trophies for sportsmen.

In some heavily-overbrowsed sections of the state the reproductive rate for whitetails has dropped over 50 percent, due to malnutrition. Where the deer population has also dropped in these sections, it will not be necessary to harvest nearly as many antlerless deer as in the past.

The wisdom in extending the antlerless deer season by one day this past December is now becoming abundantly clear. Had there been no extension, the winter mortality undoubtedly would have been higher and the overall condition of the range would have been worse than it is now.

And whitetails which would have succumbed during the winter would not have been available to hunters this fall.

All in all, the state's deer situation seems to be in better shape now than at any time in the last several years. There are still plenty of trophies for hunters, but not so many that other interests are suffering unbearable loss.



E. A. "TED" FENSTERMACHER, editor of the Berwick "Enterprise," receives the Game Commission's Senior Wildlife Conservation Award from DGP Ed Sherlinsky. The award was given for Ted's work in conservation.

Utility Equipment Damaged By Shooters

Game Protectors, state and local police and public utilities are urging shooters to handle firearms safely and sensibly to protect lives and save property.

Each year there are numerous instances of damage to public utility equipment by shooters. Sometimes there is also personal injury associated with such activity.

Investigations show that much of the damage to utility lines, transformers, insulators, etc., is caused by young persons using firearms in a careless and, in many cases, a deliberate manner. Annual property losses run into the hundreds of thousands of dollars in Pennsylvania.

Evidence of misdirected target practice by youths during summer school vacations has prompted Game Protectors and state and local law enforcement agencies to add special emphasis in their programs to impress upon teenagers and parents the importance of handling and using firearms properly to save lives, reduce injuries and protect private and public property.

Hunters Chalk Up Another Successful Gobbler Season

Pennsylvania hunters added another chapter of successful outdoor recreation to the history book with their second spring gobbler season in 1969.

The turnout of hunters during the May 3-May 10 season was almost double the response in 1968. The harvest of birds ranged from "higher than 1968" in some areas to "rather disappointing" in other sections.

Sportsmen are finding that techniques used in spring gobbler hunting are considerably different from those used during the fall season.

It is expected that expertise in the art of calling birds will be developed as hunters gain experience through spring seasons, and that the success ratio will mount among dyed-in-the-wool turkey hunters.

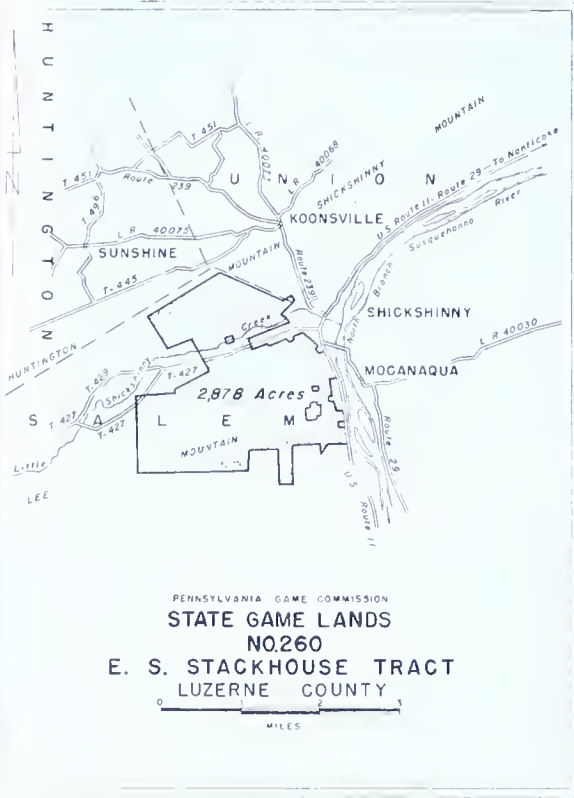
A number of sportsmen who bagged gobblers during the spring season were able to complete their requirements for the Pennsylvania Game Commission's Triple Trophy Award. To be eligible, a hunter must harvest an antlered white-tailed deer, a black bear and a wild turkey during a single hunting license year.

New State Game Lands

Land open to public hunting in Pennsylvania has been increased by the addition of 2878 acres in Salem Township, Luzerne County. To be known as State Game Lands 260, this area is located just west of Shickshinny, thus will be within easy driving distance of numerous towns in the east-central part of the state. Part of the area borders Route 11, and Route T-427 crosses it.

SGL 260's terrain is hilly to mountainous, and is wooded. Birch, maple, oak, beech and hemlock make up most of the trees, and there are numerous shrubs and vines. Much of the area has been cut over recently, making good cover for game. Deer, rabbits, grouse, squirrels and raccoons are present, as well as foxes and owls.

Streams include Little Shickshinny Creek and Rocky Run, and there are several springs on this land.



Hunters, Dogs—and Crown Vetch

In recent years, one of the most useful plants to become available for protective ground cover is crown vetch. Planted on banks bordering turnpikes and other highways, where it prevents erosion, it has become a common sight in Pennsylvania. It also is used by homeowners on banks where it would be difficult to grow or cut grass, and it is highly useful in reclaiming mine spoil and other unattractive areas. In order to supply the seeds for such plantings, crown vetch is grown commercially by a number of people in Pennsylvania and other states. This plant is extremely vulnerable to intruding animals or people—such as hunters and their dogs. Crown vetch grows to a height of perhaps 40 inches and its leaves fall off. The seeds remain attached in pods. These pods are easily shattered if anything brushes against them, with a resultant loss of the seeds. At the current seed price of approximately \$5 per pound, a single foray through a field by a dog can be disastrous to the landowner. Originally, harvesting was done in October or November, and some growers still follow these dates. Others have moved ahead to about August. Many hunters are afield at the later time, and those training their dogs usually begin in August. It is hoped that all hunters realize the seriousness of permitting their dogs on crown vetch fields, and that they will make every effort to keep their dogs and themselves from entering such fields.

Must Have Been Crowded

Charles Darwin once raised 82 separate plants, belonging to five different species, from a mud ball taken out of the plumage of a bird.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

No Strangers to Safety

WHETHER it's automobile safety or hunter safety training, Pennsylvania State Police are not strangers in any community.

A hunter safety program, under the direction of Warren Wood and Trooper Raymond Cobb of the New Milford substation, was conducted at the Montrose VFW Post 5642 clubhouse recently.

Seventy-five persons were enrolled in the two-night course, which consisted of instruction in the proper handling of firearms and archery equipment.

Adults Attended

The course was open to all persons 11 years of age and over. Of the 75 enrolled, five were adult women and five young girls. Several adult men also were in attendance. The balance of the group was composed of boys between the ages of 11 and 16.

Four hours of instruction is required to complete the course. Following the instruction period a written examination is given. All 75 enrolled in the Montrose School successfully completed the course.

Trooper Cobb instructed the group in the proper handling of firearms and discussed the laws governing the hunting seasons and the various regulations regarding the carrying of firearms and the transporting of game.

Warren Wood expressed his delight that the classes were so well attended by adults, who will not be affected by the September 1 law, but show enough concern about hunter safety that they took the time to attend and complete the course.



TROOPER RAYMOND COBB of the Pennsylvania State Police gives instruction in the proper methods of gun handling at the Montrose VFW clubhouse.

Pa. Game Commission
Hunter Safety Certified

To Date:

Instructors—10,331

Students—198,438



PGC Photo by Lowell Bittner

WALTER WISE, retired State Police sergeant, explains Hunter Safety program to young men during the Outdoor Show in Harrisburg. Over 100 students registered.

Hunter Safety at McGuffey High

For the past two years, with the assistance of District Game Protector George Szilvasi, Washington County, and the Claysville Sportsmen's Club, McGuffey High School has sponsored the NRA Hunter Safety Course as part of the school curriculum for all seventh grade students. The seventh grade schedule provides a double period (88 minutes) once a week for various enrichment programs. The Hunter Safety Course is completed in four of these double periods. Materials for the course are provided by the Pennsylvania Game Commission

through Game Protector Szilvasi. The course is conducted by Assistant Principal William Carroll and Louis Moore, both of whom are NRA hunter safety instructors.

The school administration feels that this program is a complete success (approximately 450 students have already taken the course) and plans to continue it in future years.

McGuffey High School is located in Washington County on U. S. Route 40 approximately seven miles west of the City of Washington. (Enrollment is 1150, Grades 7-12.)

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.

The Care of Your Hunting Dog

By S. Henry

IF YOUR hunting dog is to serve you well in the field, he must be in the best of health. He can't tell you when he isn't; you must be alert to the evidence and treatment of his most common problems.

Worms are among the most misunderstood ailments of dogs. There are five types of worms or parasites (roundworm, hookworm, tapeworm, whipworm, and coccidia) to which your dog is susceptible. Examination by the naked eye may not reveal any signs of worms; only a microscopic examination of the stool by a veterinarian will reveal their presence. Commercial products available in a pet store may destroy roundworms but have no effect upon any other type, and indiscriminate worming is dangerous, since the ingredient which kills the worms is a poison and may have harmful effects upon the dog. A stool specimen should be checked before and after every hunting season.

Distemper Dangerous

Distemper is one of the most common and dangerous diseases that threatens your dog. It is an airborne virus affecting the respiratory system. The symptoms resemble those of a human cold. The disease is most commonly fatal, although treatment, especially in the early stages, is becoming more successful. A dog that does survive may lose one of his senses, often hearing or smell, or may suffer nerve damage which leaves him paralyzed. Prevention in this case is well worth the effort. A puppy should begin vaccinations immediately upon weaning from the mother. A series of injections is usually advised in high-susceptibility regions; elsewhere a single inject-

tion may be satisfactory. The shot should be boosted annually.

You may wish to mention to your veterinarian the possibility of leptospirosis (commonly called lepto) injections. Lepto is a disease carried in the urine of warm-blooded animals



YOUR DOG CAN'T tell you when he's sick. You must be alert to the evidence and know his problems.

(rats, rabbits, and squirrels being the most common), and is fatal. The first symptoms are the yellowing of the eyes and skin, much like jaundice. Depending upon the frequency of reported cases, the veterinarian may wish to vaccinate against it.

Heartworms Becoming Common

Heartworms are becoming more common, particularly on the East Coast, and especially among sporting dogs. They are worms which establish and grow in the heart, and are caused by the bite of a flea or mosquito carrying the larvae (a good reason for bedding your dog on cedar shavings which cannot harbor fleas, rather than on straw or hay). There are seldom any visible warning signs. The dog may simply become lethargic in the field, or may simply collapse after exercise. A blood test will reveal the presence of the larvae of the heartworm (*microfilaria*). A veterinarian's treatment is the only cure.

Many dogs suffer from summer allergies. The allergy may begin with a little scratching, and progress to the dog's chewing himself open. If you notice a slight rash, particularly on the stomach, clip away the hair, treat the area with a cotton ball dipped in peroxide, and apply calomine lotion to the area. If the chewing and scratching persist, or the area worsens or spreads, see your veterinarian for shots and medication. Many allergies can be controlled through the use of steroids.

Summertime Problems

Ticks and fleas are summertime pests that may become a real problem. Ticks are small brown insects resembling miniature crabs. They live in the grass, and once on your dog burrow into the skin and suck blood, whereupon they bloat into gray sacks. They may invade the dog's bedding and kennels, or if he is a house dog, may live in baseboards and walls and become a year-round problem. If you find ticks, bathe the dog and remove all ticks, wash his bedding, and spray

the area with an aerosol designed for that purpose. A tick may be removed by pulling with tweezers, but must be burned or drowned after removing, as they are nearly impossible to crush. Treat the bite area with peroxide. The resulting lump on the area of the bite is not the "head" of the tick. It is a tissue reaction to the bite, and will subside after about a week.

Fleas are fast-crawling tiny insects that live in the grass and invade your dog's hair. They do not imbed themselves, but cause the dog much irritation and scratching. The treatment is the same as for ticks, but fleas are much easier to kill.

Convulsions

Most owners are frightened of convulsions, and may in panic destroy a perfectly normal animal. Convulsions, particularly in puppies and old dogs, may occur any time the dog becomes overheated, excited or frightened. The dog will collapse, salivate, and have rapid, rhythmic movements of the limbs and face (known as chorea). This will pass within a short time, usually two or three minutes, and the dog will return to normal. Convulsions, unless repeated, do not mean that the dog is sick, and do not necessarily denote distemper or rabies (convulsions are the last stages of both diseases). If the dog has repeated convulsions, your veterinarian can prescribe a continuing medication which will control this condition.

These are the most common problems encountered by the owner of a hunting dog. There are, of course, many more problems which may affect your dog. Frequent urination, blood in the urine, lethargy, repeated vomiting or diarrhea, a change in the condition of the coat or the loss of hair, scratching at the head or shaking the head, a heavy discharge from or a blue filming of the eyes, are other signs which are warnings of problems. Any time you are in doubt, call your veterinarian. Don't take a chance on losing your hunting companion.



Just Add Water

By Les Rountree

LAST MONTH'S column was really the inspiration for this one. We talked about pack camping and the advantages of going light, but we didn't say too much about how to achieve the lightness. Camping supply stores usually have people who know about such things as nylon tents and featherweight sleeping bags, but very few such emporiums sell or give out much advice about what to carry for the stomach. Since a happy stomach is frequently more important than any other happening on a camping trip, let's take a look at what's available.

With all candor (and it is embarrassing to admit it), this year's June bride probably knows more about lightweight dehydrated foods than do

most campers. This is mainly because they are easy to prepare, taste good, are not outrageously expensive and work out just fine as meals for two. If you are capable of boiling water you can serve a plate full of beef stroganoff or turkey primavera just as easily as the old faithful hot dog, and save pack weight at the same time.

When we talk about saving weight the back-pack trip is the thing that comes to mind first. On all camping trips however, weight is a factor. Even if your party consists of only two persons the convenience and speed with which these modern foods can be prepared will be appreciated under many circumstances. When time is not important and my campsite is located near a grocery store I enjoy doing my



INSTANT OATMEAL makes a nourishing breakfast and is easily prepared—even when a youngster thinks she can't wait a moment longer before eating!

cooking from scratch with fresh produce. But you just can't get fresh milk or eggs when traveling cross-county and this packaged food won't spoil no matter how long you carry it.

When doing any kind of informative writing the most common complaint received by writers is "You are not specific . . . you refer to quantities by saying bland things like—as much as needed or enough for three days." To the readers who say things like that, here goes! A list is coming. But before I do, allow me to say that I won't think much of this list after another year goes by. My tastes will change as yours will and there will be umpteen different things on the market that will make some of these items obsolete.

Here is five days' food for two people. The total weight is approximately 12 pounds.

Breakfasts

- 5 packages instant breakfast drinks
(may be heated for hot drink)
- 10 packages of instant oatmeal

Lunches

- ½ package macaroni and cheese
- 1 package rice melanese
- 1 package beef noodle soup
- 1 package onion soup
- 1 package chicken rice soup
(all soup to be served with a cheese spread or butcher bologna or Rycrisp)

Dinners

- 1 package chicken baronet
- 1 package beef stroganoff
- 1 package ham cheddarton
- 1 lb. package spaghetti (with an envelope of meat sauce)
- 1 package turkey primavera

Snacks

Bouillon cubes, fig newtons, candy coated chocolates, dried fruit, gum and lifesavers, smoked bologna or jerky.

Extras

Rycrisp or melba toast, lemonade mix, ice tea mix, tea bags, powdered coffee, instant mashed potatoes, cheese spread, peanut butter, jelly, potato pancakes, sugar cubes, margarine, powdered milk, season-all, and salt and pepper in covered shakers.

If there will be more than two of you in the party the mathematical calculations will be up to you. If you're going to make a solo trip, slash everything in half and naturally you'll cut the weight in half. When packing these goodies into your rucksack or whatever you'll be packing it into, a tremendous amount of space can be



saved if you remove all items from their original box. No, I don't mean that you dump the oatmeal and the potatoes loose into the pack. Practically all of the above mentioned items are individually wrapped in aluminum foil bags which transport easily. Only problem with the bags is that they don't burn. In fact, it's just about impossible to destroy them. The best thing to do is bury them. The back packer in particular should never be a litterbug. Just imagine how you'd feel after a hard day's walk when, upon flopping down in a hidden glen, your eye falls upon an El Whippo Instant Mashed Potato package?

Speaking of instant mashed potatoes, here's another item, along with bouillon cubes, that comes in two kinds only—very good and very bad. I'm not real sure what the reason is, but there must be two distinctly different methods of processing dehydrated spuds. You'll just have to try a couple different brands to find which are good. Incidentally, you'll need some dry milk along to make these with.

Snack Items

The snack items can be added to or altered in any way, but I heartily recommend that you don't eliminate them from your packs. The main dish that you'll be preparing for all meals will require boiling water. This takes some time. There will also be setting-up chores to do and these also take time. A snack of jerky, a fig newton or a piece of dried fruit can take the edge from an angry appetite and will make the wilderness campsite a much happier place to be. This is doubly so if you have youngsters along. Their dispositions are directly related to their meals when out of doors and a simple thing like a stick of gum can solve a lot of problems. The same holds true when on the trail and this includes a walking or riding caravan. A piece of candy or gum can still that hunger passion until you're ready to eat. If a ready supply of cold water is



PLASTIC CONTAINERS are non-breakable in ordinary usage, more convenient than glass in a camper's supply box. Peanut butter and jelly make tasty sandwiches that give lots of energy.

available a spot of instant ice tea or lemonade will also serve as a quick pick-me-up.

Here we go again, stepping solidly on a traditional camping institution, but . . . for the lightweight dried foods that require boiling water, don't build a campfire. What? No campfire? Rountree should be boiled in oil! Well, if you really have to, go ahead and build one for boiling water, but plan on waiting a while longer for a hot meal. Boiling water is much simpler on one of the army surplus gasoline stoves or one of the lightweight camper specials offered by Coleman and others. They start right now and take a lot of panic out of supptime. Not much weight is added to your pack and a pint of gasoline or a cylinder of LP gas will take care of five days' cooking. In addition to convenience, your cooking containers will be far easier to clean. Caked-on grease, hardened by wood smoke, will make everything a sooty mess when it's go-home time. For evening cheer, or toasting marshmallows, nothing beats a campfire to be sure, and one will surely be built. Check first on the area to make sure campfires are legal and employ all



SHOWN HERE IS enough food to keep two hungry people going all day. A five-day supply for two weighs only 12 lbs.

safety precautions before retiring.

If your burner is of the army surplus persuasion you don't need any other cooking containers other than the two nesting ones that the little stove comes packed in. They're just right for boiling the small quantities of water that you'll need. The Boy Scout cooking kit is another fine outfit that has yet to be improved on. Several other companies make lightweight cooking kits, or you can fashion your own out of tin utensils from the dime store. It doesn't have to be fancy. Remember the only cooking you'll be doing is boiling water.

For the bulk supplies that you'll want to take along, like powdered coffee, margarine, flour, cheese spread or whatever your private tastes demand, use plastic containers with lids that are guaranteed to stay closed. Plastic picnic dishes of various sizes are just right for this purpose and weigh practically nothing. I'm a peanut butter lover myself and I'm always sure to have a good supply of this along. I usually substitute this for

regular butter when in the boondocks and use margarine for any "real" cooking I may want to do. At home I prefer butter for frying, but let's face it—butter doesn't keep too well if not kept cool.

I recently made a supermarket survey and was pleasantly surprised to discover that all of the items on my list were available at most stores. I started right from the top and purchased one of each of the items I listed and was again surprised. I expected that the packaged food would be quite expensive when compared with bulk and canned foods. Well, in all honesty, it was a bit more expensive, but not prohibitively so. All of the items on my list cost approximately \$12.50. Remember, this is enough for two people for five days. As we mentioned before, this material all weighed about 12 pounds, so that's just slightly over a dollar per pound. At today's prices, and when we consider the lightness and convenience of the dried foods, that's not bad at all.

The inventive cook can have all sorts of fun trying different combinations with prepared dry foods. For example, serve one of the dinners (chicken baronet, for example) poured over Rycrisp toast. You could carry some bread for a two-day trip, but it gets stale and it's bulky. Crackers or toast are better. How about mixing some beef bouillon in with your mashed potato water? Sound terrible? Not at all. . . . I'll bet you'll be pleas-

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antly surprised. Try spicing up any of the dry soups or main dishes with some sort of seasoned salt or herb mix. A lot of these are on the market now and just about everyone has his favorite. These combination shakers can make very ordinary things taste great in camp.

Among the things that one takes along to eat, one item usually stands out as something to remember. In my case it's the delicious flavored oat-meals that are being offered today. The apple and cinnamon flavor really sends me. It's a great way to start a chilly morning and it sticks to your ribs. Top off this breakfast with a cup of coffee and a couple of fig newtons and who knows, you may even try it when you come home.

Another plus comes from the widespread availability of the dried foods, and that is the appeal they have for those campers, especially the wives, who do not fancy themselves as ready-made camp chefs. The ease of preparing really good meals requires boiling water only. Your guide, who prob-



FOR EASY PACKING, remove plastic bags from their cardboard envelopes. Large supply fits into one packsack.

ably doubles as your husband, will provide the water and you can come on like Charles of the Ritz. Stag hunting parties can also profit by using the dried stuff and I promise you that it's better than greasy bacon and canned beans!

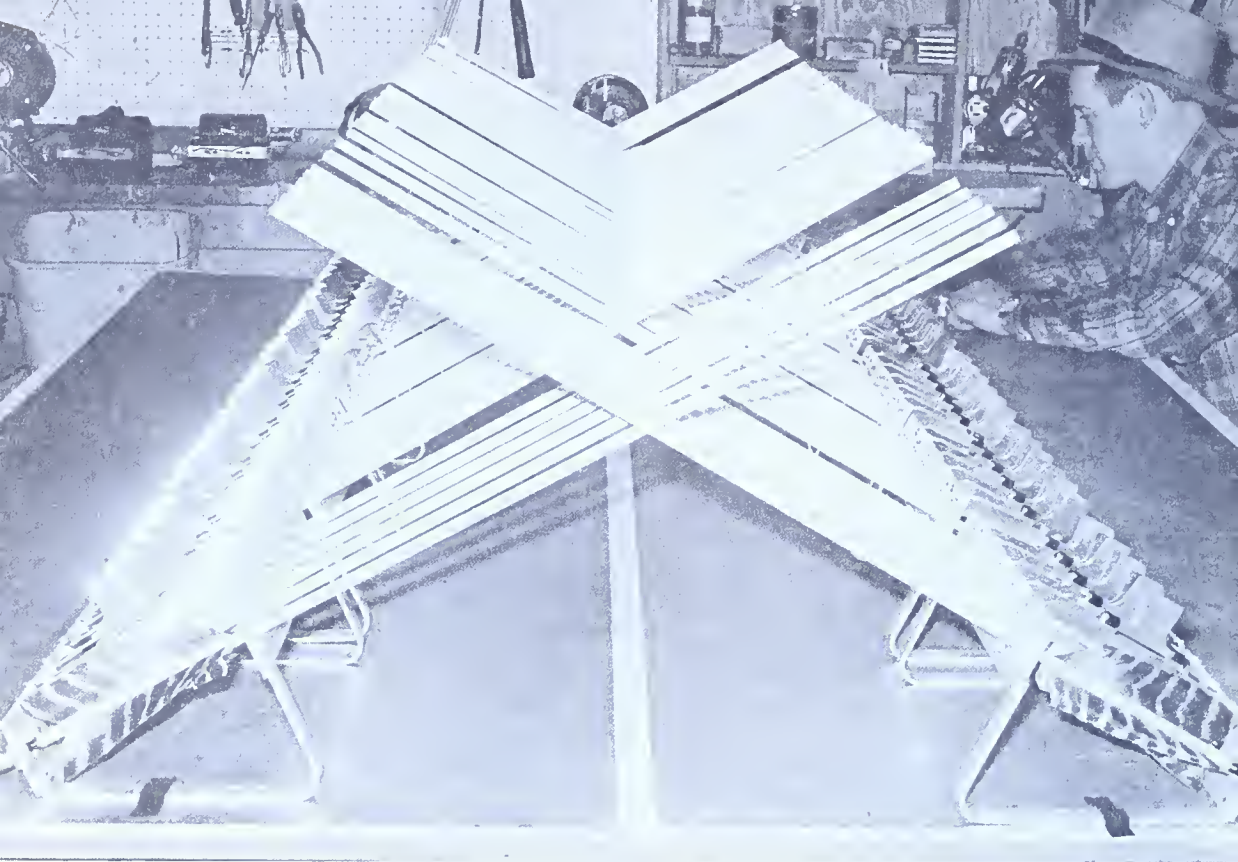
Book Review . . .

Gun Collector's Handbook of Values

The late Charles Edward Chapel was a prolific gun writer, noted for his painstaking research in different areas of the shooting sports. He was the author of a number of books, perhaps the best known being *The Gun Collector's Handbook of Values*, just released in its eighth edition. This revision includes complete descriptions of some 3000 antique and semi-modern firearms, and gives the normally accepted values of each at this time. About 600 guns are illustrated on 48 full-page plates, facilitating identification. Most U. S.-made handgun models are covered, and there is extensive material on Kentucky (Pennsylvania) flintlocks, Colt rifles, martial pistols and shoulder arms, as well as chapters on selected foreign guns. One useful section lists gunmakers of the flintlock period. This is a necessary book for anyone interested in gun collecting or guns in general. (*The Gun Collector's Handbook of Values*, by Charles Edward Chapel, eighth revised edition, revised by Mrs. Charles Edward Chapel, Coward-McCann, Inc., New York City, 1968, 398 pp., \$10.)

How About a Man?

A worker bee can lift 24 times its weight, a horse only half its weight.



Mostly Subterranean . . .

Arrow Architecture

By Keith C. Schuyler

Photos by the Author

JUST GIVE ME a dozen of those arrows. I want half for myself and half for my boy."

This order was actually given over the counter of an arrow shop. Although it is an extreme example, it does illustrate how little importance some would-be archers place on matching the arrow to the bow. Yet those who strive for some degree of accuracy know how vital it is to fit the arrow, not only to the bow, but also to the archer himself.

Even if the father and son combination was a perfect match physically, it doesn't necessarily mean that they could use the same arrows. There often are indefinable differences in the individual's anchor, his release and the bow itself which dictate individual arrow selection, even though every

other factor appears to fit the usual pattern. In the preceding, the boy was a miniature counterpart of his father and it was utterly impossible that each could *successfully* shoot the same shafts. When this was pointed out, the father still insisted on the dozen matched arrows. The tender care and skill that went into making up that set of shafts was a complete waste.

Difficulty in obtaining the right arrows frequently drives some of the more fastidious into learning how to make their own. Such experiences have spawned numerous basement operations across the country. And, since the price of tools and machinery comes rather high for individual use, many have built a neighborhood business supplying friends and club members with made-to-order arrows.

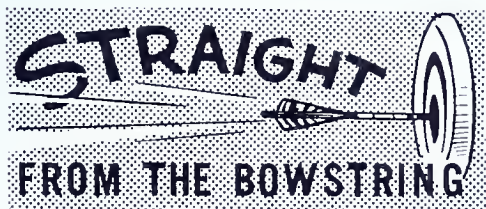
Others have branched out into the precarious wholesale market. But even the most modest of these operations is a far cry from the days when we whittled down a shaft with a pocket knife to accommodate the head and nock, and our feathers were usually held in place with straight pins in a more or less relative position to our purpose while the uncertain glue dried.

It is still possible to make your own arrows with a modest outlay of cash. There are pencil-sharpener type tools with which to taper the ends of wooden shafts. A single fletching tool can be used to affix the feathers. If you purchase shafts from a trustworthy source, you can buy them matched in weight and spine. You can saw or cut them to proper length with tools you already have around the house. Die-cut feathers or molded plastic vanes are available. But all of this takes time and patience.

Sophisticated Approach

For a bit more sophisticated approach to this business of arrow making, I received the cooperation of Bill Wise who has a basement operation that fits between the arrow-at-a-time casual approach and a full-blown factory production line. He turned a hobby into a small business while completing college training for the teaching position he will take this fall. Although my scores don't necessarily reflect the advantages of matched arrows, I want every advantage obtainable. Bill makes my arrows. He may weep secretly over what I do with them, but he was kind enough to permit me to take the photos presented here.

In the event you want to spend



MACHINERY SPEEDS UP process of tapering arrow shaft at nock end. Old-timers remember doing this with a pocketknife.

money to save some, we'll take a look at how you might get into the hobby. We'll assume that you are only going to make arrows for yourself. Further, this will deal primarily with wood, still the most popular for all-around shooting.

First you have to get the shaft. Consequently, it is important that you get the right size. This will be determined by using an arrow that flies well for you from your bow. Have it checked for spine by someone who has a tester. For wooden shafts, this is determined by the deflection from straight which is created when a two-pound weight is suspended from the center when the two ends are supported 26 inches apart. Spine for aluminum and Fiberglass shafts is determined in a slightly different manner.

If you are testing wooden shafts which have already been cut less than 26 inches, a comparable reading can be made by assuming 127 percent of the chart on a shaft resting on supports 24 inches apart. Regardless of the shaft diameter, a certain deflection from straight, caused by hanging the two-pound weight at the center, will

supposedly determine the weight bow with which the arrow should be used. Charts can be obtained from the shaft supplier to pin this down to specifics.

But right here the trouble begins. Charts are only manufacturers' recommendations. There is considerable latitude in the performance of any given number of bows of like draw weight. Arrow rests can change the action at release and the individual archer may have some physical deviation from what might be considered normal. Consequently, it is important to learn the exact specifications of any arrow that flies well for you regardless of what the charts say. Even so, wood is never perfect, since nature didn't necessarily have arrows in mind when she invented trees. Each shaft should be individually tested.

The price of cedar, generally considered best wood for arrow shafts, is determined by the care that goes into selection by the manufacturer. Two to five pounds deviation in a set is considered good; Bill won't settle for more than one-half pound either way in arrows he makes.

Wood is popular because it is the most economical material. Unfortunately, finished arrows are too often

purchased by price. Imperfections in shafts can only compound any imperfections in shooting. There is a wide spread in the quality of arrows offered. Surprisingly, some of the best are manufactured by those archers who offer the custom-made basement brands.

Purpose of Paint

Paint on an arrow has only one really important purpose. Bright colors make it easier to find if it misses the target butt. Too often, paint covers up inferior grades of cedar. It is important to know your arrow maker as well as your arrow. Check for fine grain and straight grain. If the arrow is painted, try to get a look at unfinished shafts from the same batch.

A little moisture is good for a wooden arrow so long as it is not permitted to have contact with the shaft long enough to cause warping. Shafts held too long in a dry atmosphere tend to become brittle.

In selecting spine, it must first be determined what type head is to be used. A 125-grain hunting or target head will require a somewhat heavier spine since the inertia of the head on release will tend to create more natural buckling of the shaft as it passes the bow. Roughly, spine should be about 10 percent additional to allow for this difference. If your primary interest is hunting, it is well to use both a head and fletching which is comparable to that you plan to use on big game. On the other hand, if you are only interested in target shooting, you will find your proper spine close to that recommended in the shaft-maker's charts.

Once you find your proper spine, the knowledge can be carried over into selection of aluminum and Fiberglass. Although my quiver carries relatively inexpensive arrows for field target shooting and general hacking around, my hunting arrows are all aluminum and Fiberglass. There are supporting reasons from a humane standpoint as well as the killing qualities of these two materials.



PROPER SPINE and uniformity among arrows is essential to accuracy. One method of testing them is shown.

But, back to the wood. Once your proper length (allow for nock and head) and spine have been established, it is necessary to get a head and fletching on the cut-to-order shaft. The simplest tools for the job are merely glorified pencil sharpeners of specific taper. A kit can be purchased which provides "sharpeners" for the three more popular sizes: 9/32, 5/16 and 11/32. You merely insert the cut-off end of the shaft into the receiving end of the hand tool and turn it as you would a pencil sharpener. Separate tools are provided to form the nock end. A five-degree taper is used on heads, and nocks are tapered to eleven degrees. The entry sleeve is constructed so as to keep the shaft straight, but special care should be taken to avoid any deviations.

One of the sizes in shafts which is gaining in popularity today is the 21/64.

It is important, once the taper is formed, that it be cleaned of sawdust or any accumulated dirt. Before placing the nock into position, determine the grain of your shaft. When applying the nock, be sure that the string slot, or throat, is cross-grain. This conforms to the spining method and guarantees the same stress indicated by the spining machine.

Top-Grade Glue

A top-grade glue, which will spread over the taper, must be used. Press and turn nock into proper position. Otherwise the head or the nock will fit improperly, and it may easily come loose.

It is best to apply a light coating of a good ferrule cement for the head. Reheat it so that it spreads uniformly as the head is pressed firmly onto the taper. Dip in room temperature water at once to permit proper tempering of cement.

If flat-bladed broadheads are being attached, the main blade should be parallel to the arrow shelf. This tends to stabilize initial flight until the fletching takes over to counteract any plan-



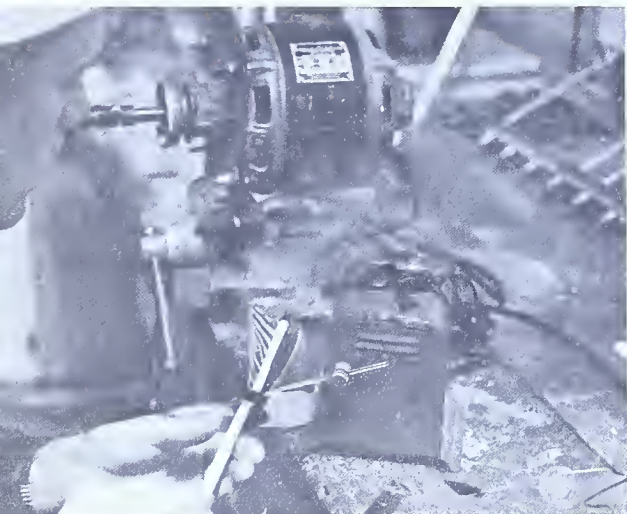
MINIMUM ARROW-MAKING requirements: die-cut feathers, field target head, nock, ferrule cement, glue, pre-spined shaft, head tapering tool, nock tapering tool, tool adapters, fletching jig.

ing tendency. Paradox, which commonly describes the bending of the arrow as it passes the bow, can accentuate left or right drifting before the arrow starts turning on its axis if the blade is oscillating from side to side. If this sounds confusing, since it is based on a personal theory, accept it anyway since most of the experts will agree with the practice if not the principle. *All* heads should be pressed into position so that the bonding agent will adhere.

Give the adhesive plenty of time to set before shooting the arrow. Getting a proper bond between the metal head and the shaft is one of the most critical operations in arrow building.

Fletching, or placing the vanes or feathers on the shaft, is most certainly best accomplished by use of a commercial jig. This insures that each feather is properly positioned. Be sure that the shaft is clean and free from moisture or anything else that might interfere with a good bond. Since the arrow-at-a-time manufacturer will undoubtedly be using die-cut feathers, it is necessary to check for size and length as well as a flat feather base for application of the glue.

If you have a feather burner, you can shape your fletching to any form you desire. However, the modified parabola for target work seems to be



DIE-CUT FEATHERS can be purchased, but a burning machine permits archer to select his own shape for fletching.

uniformly popular, and it didn't win friends by doing a poor job. Most of the other shapes have been tried over the years and discarded. About the only deviation recommended is the shield cut which is prettier but probably a fraction less efficient.

Nocking Ridge Vertical

On the conventional three-feather fletch, the nocking ridge should be vertical. The first feather, the cock feather, will then be aligned with the ridge. Nocks without ridges present no problem; either side presented in the jig may take the cock feather.

Be sure the jig is adjusted for right or left wing feathers. Feathers from the same wing *must* be used.

If you are working with a simple kit, it will take you about an hour an arrow just to fletch the shafts. The adhesive should be permitted around 20 minutes to bite fast. Of course, you can be getting the next dozen spined, cut, tapered, etc., during the waiting periods, but it will still take well over an hour an arrow anyway you cut it. The finished product may fall short of perfect, but it will be all yours. Check to be sure it is straight.

Over the years, and particularly in the last 20 or so, my arrows have come

custom via the cellar steps of various arrow makers I have known. This is in no way intended to knock the commercial offerings. But a wooden arrow is such a personal thing that it is sometimes difficult to find what you want over the counter. Where the dealer has a place for you to try shafts with *your* bow, he can do a good job for you, assuming that all other factors are equal.

Start With Wood

Once you know what you want and need in wood, it is relatively simple to order glass and aluminum arrows. If you are one of the hot rocks who never miss the bales, and you aren't interested in smashing cheap arrows on rocks at groundhog holes, your problems are minimal. It seems to follow, however, that almost every archer gets started with wood.

And he often finds that his basement buddy can do as good a job on aluminum and glass after he himself is graduated from the firewood and arrow-barrel stage.

You, too, can make arrows with Fiberglass and aluminum. But, since you probably will start with wood, you can move up by refining techniques which must be learned in the timber trade. Spining is done a bit differently, adhesives must be a bit stronger and adaptable to metal and glass, and mistakes are more costly with these materials.

If it doesn't work, you can always pick up a dozen from a basement down the street.

Suggested Order of Assembly

1. Shaft selection (spine)
2. Nock taper
3. Paint (optional)
4. Apply nock
5. Cut to length
6. Point taper
7. Crest (optional)
8. Fletch
9. Affix head
10. Straighten (check shafts for true alignment)

When It Comes to Shells for Shootin', There's a Lot to Be Said for the Kind Some Call . . .

"HOMEMADES"

By Don Lewis

Photos by Helen Lewis

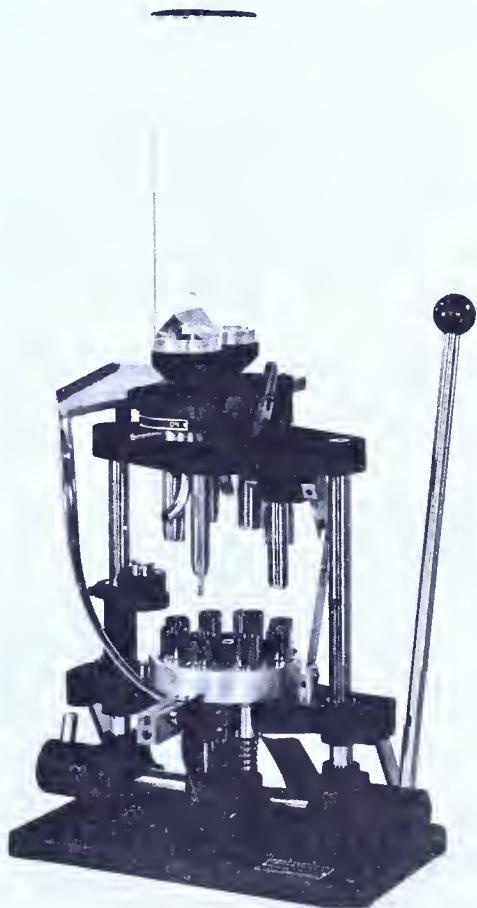
I STUDIED the big chuck through my binoculars, trying to determine if I could figure out a shot. Only the chuck's head was visible above a slab on the waste pile of a forgotten saw-mill. At nearly 175 yards, there was little room for error.

I had two problems: the scope on my 218 Bee was an inexpensive 6X with thick cross hairs which made it nearly impossible to make a precise shot, and I was nearly out of ammunition. In fact, I was down to my last two shells—or so I thought. After another 10 minutes went by and the chuck remained partly hidden behind the slabs, I decided to pit what little skill I had against the odds of such a long shot. I did my level best to center the reticle on the chuck's head and let fly. When the bullet whammed into a slab above the chuck, he lost no time in racing to the top of the pile. What a shot I had now! I threw out the empty and dug the shell box out of my hip pocket. To my dismay, I found that I had just fired my last shell. All the frantic digging through my pockets and even a mad dash back to the car didn't produce a loaded round. All I could do was utter some unkind remarks and leave. I was really disgusted.

Today, with all our prosperity, it probably is rather difficult to picture a fellow out of ammunition. But back then, it was not uncommon. In my case, I counted every round and kept track of each round fired. Hornet and Bee cartridges were somewhere around \$3 for a box of 50, but my job in a coal mine office didn't pay any fancy salary. The necessities of life came first, and ammunition was bought only

when a few dollars could be spared. Much of the time, I was out of stuff to shoot.

I was in a rather nasty mood when I left the big chuck on the slab pile, but it turned out to be a fortunate evening for me. As I eased the car



LEWIS FOUND THAT Ponsness-Warren Size-O-Matic 800 B loader cranked out shotshells faster than he could shoot them. In this tool, each shell is held in a full-length sizer throughout operation. This keeps them from stretching, makes them usable in autoloaders and pumps.

down a lane in the field, I saw another chuck hunter getting ready to shoot. Not wanting to spoil his shot, I stopped. After he missed two shots at a chuck more than 250 yards away, I drove down to where he was and struck up a conversation with him. It turned out that he was pretty new at chuck hunting and couldn't estimate distance. He was really surprised when I informed him the chuck he was shooting at was far beyond the effective distance of his 22 Hornet. He thanked me, but informed me that he was using a 218 Bee. My spirits perked up immediately since I figured I could buy some ammo. I offered to buy a few rounds, but he said he wasn't interested in selling any of his handloads. He offered to lend me as many as I wanted. When he said "handloads," I lost interest.

I know I hurt his feelings when I refused to accept the handful of shells he offered. I certainly wasn't too diplomatic about it when I told him flatly that it was probably the handloads instead of the long distance that

ROLLING YOUR OWN ammo adds a new aspect to shooting, gives a personal involvement that firing factory loads can't match. It also saves you money.



caused him to miss the chuck. Luckily, he had more sense than I did, and he took considerable time to explain to me what handloading was all about. I know now that he had a real knowledge of handloading. Even as stubborn as I was, I had to admit that what he said made sense. I gave in, and, after we checked to be sure his shells would fit my chamber, I accepted a dozen rounds. I took his advice and shot six of them zeroing in my rifle. To my surprise, they seemed to shoot just as well as any factory load. I even connected on the big chuck a few nights later. Suddenly, I saw the tremendous advantages of homemade ammo. I'll admit that at that time, I was thinking only of the financial saving. The only problem I had was getting the equipment.

First Experience Poor

My objection then to handloads was not all pure stubbornness. What little experience I'd had with home fodder was enough to sour any hunter. In the fall of 1946, Ray Johns and I hunted in the Ridgeway area. Ray had a borrowed rifle and some handloads that cost a nickel apiece. What seemed like a real bargain ended in disaster: not one of the shells would fit Ray's 8mm. This left us with just one rifle—mine. About noontime, we ran into a fellow who sold Ray some factory shells. When we got home, we managed to get several of the handloads into the chamber, but not one would go off. Right then and there we decided against handloads for good. When the man offered me the handloads in the hayfield, all I could think of was the time Ray and I went to Ridgeway.

Fortune smiled on me shortly after encountering the man who loaned me the shells. A hardware store owner offered me a used Tru-Line Jr. press and eight sets of dies for practically nothing. But when we added up all the components I would need it came to over \$30, and I didn't have that kind of money. Apparently, the store owner thought that handloading was

on its way out, for he told me to take all the stuff and pay when I could. I was finally becoming a handloader. Within three years, I had graduated to a full-length sizing press, a very small shop, and a benchrest to test my loads on. It seemed when I had been buying store ammo, I was always out, but when I began to load, I had more shells than I knew what to do with. It was sure a good day for me when I missed that big chuck on the slab pile.

Reload? Yes!

"Do you think I could learn to reload?" is a question that is constantly being asked. I always say, "Yes." Handloading is not highly technical or extremely dangerous. Naturally, care, caution, and common sense are prime requisites in any kind of handloading, but anyone should be able to obey these simple rules. Get the idea out of your head now that you are going to design special loads. If you intend to be a crusader, cooking up "hot loads," you have no place in handloading. You really don't have to guess at anything. Plenty of well-illustrated manuals are filled with tested loads for every caliber. By sticking to the manual, you will not have any problems.

Another thing to remember is that equipment alone is not the answer. Many times in the past 15 years, I've been approached by fellows who feel that loading must be done with expensive equipment. This is not true. The simple tong tool that Lyman put out years ago was cumbersome and slow, but it turned out respectable ammo. I have an old Belding and Mull that goes way back, but it still is capable of doing fine work. Handloading is in the loader, not his outfit. Anyway, the whole idea is to simply put

a primer, some powder, and a bullet into an empty case. All the tools on the market today will do this. Some do it quicker, and others may be stronger, but basically, they are much the same.

The shotshell press I'm now using is a Model 800 Ponsness-Warren. Designed primarily for trap and skeet



USEFUL EXTRAS for handloaders are powder funnel, vernier scale for measuring overall cartridge length, and chamfering tool for tapering inside of case mouths.

clubs, it can turn out perhaps 1000 shells per hour with several fellows helping the man working the press. Even at a one-man clip, 15 boxes or more can be loaded per hour. One outstanding feature of this particular loader is that each shell is held in a full-length sizing die throughout the entire loading procedure. When you get a rhythm going, every downward pull of the handle produces a loaded round.

A friend of mine has a small hand-held shotgun shell loader. He boasts a box per hour if everything goes right, yet his loads shoot right along with mine. A big expensive press would be useless to him since he shoots only a few boxes each year. He derives a good bit of enjoyment out of the slow, painstaking routine he has to go through to get a loaded round.

Another thing to forget is the idea that you will immediately begin turning out ammo that is far superior to factory stuff. Don't turn up your nose at factory shells; I've seen one-holers shot with commercial ammunition. The handloader's one advantage is that he can, by doing a lot of shooting and keeping an accurate record, tailor a load that may outshoot the factory





DARRYL LEWIS, now in college, has been loading his own ammo for many years. Instruction by his father and constant attention to loading manuals has made him a safe reloader.

load in his particular rifle. The catch here is that getting a load for one rifle usually is not one evening's work. I fooled around the biggest part of a summer coming up with an outstanding load for my 25-06. I must have fired over 500 rounds in the process.

In my opinion, the loader who does not fire most of what he loads and keep accurate records will never enter the ranks of advanced handloaders. I know handloaders who seldom fire a rifle; one doesn't even hunt. This type of loader is just assembling parts without ever learning what it's all about. I'm not insinuating that there's no use taking up loading if you don't intend to fire thousands of rounds each year, but you should make every effort to

test your loads and work up some loads for the type of hunting you do. The fact that you buy the component parts in rather large quantities provides the opportunity to load and shoot without worrying about running out of shells. Just yesterday, another handloader and I fired his 22-250 over 200 times testing various loads. We found out that his 22-250 would give terrific results with 35 grains of 4895 pushing a 50-grain Sierra bullet. Many of the other combinations tried gave only mediocre results. Handloading let us find a top-notch one.

Handloading is not just for the experts. Whether you shoot much or not does not mean that you can't enjoy the benefits of putting together your own fodder. The requirements are simple. If you like to shoot, you should be a handloader. It's relaxing, enjoyable, and somewhat profitable. Also, it can be done successfully by you. I recall when I began buying my own equipment, I was told to forget it unless I was a gunsmith, chemist, and genuine daredevil. I believed this until a man took me into his garage and showed me how simple it is to load. In one way or another in the years since, I've personally helped over a hundred fellows set up loading tools. Every one of them has expressed his gratitude for starting them in the field of handloading. I suggest that you give some thought to becoming one of us. It isn't just that you will save money or that you will have more shells loaded than you can shoot, but the satisfaction that comes from rolling your own is hard to surpass. I'll even go so far as to guarantee that hunting and shooting will take on a new meaning when you're using your own "homemades."

1969 N.B.R.S.A. National Varmint Matches

The National Bench Rest Shooters Association will hold its National Varmint Matches on the South Creek Rod & Gun Club Range at Fassetts, Bradford County, Pennsylvania. Shooting will be at 100 and 200 yards, with the light varmint matches on August 7, sporter matches August 8, and the heavy varmint matches on August 9 and 10. Bob Hart of Nescopeek will be the referee.

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COVER PAINTING BY RON JENKINS

It always comes as a shock to hear the statement that doves are this country's most popular game bird. This bluish-gray streamliner has none of the ringneck's gaudy color or bold personality, none of the grouse's quiet dignity, and he can't approach the bulk of a mallard to say nothing of a Canada goose. All a dove is, is a wizard on wings. Where he's gonna be an instant after your trigger is squeezed is mostly some place where your load of 7½s ain't. The twinkling, flickering flight of a flock of doves can make a gray-whiskered pheasant-popper wrap his smoothbore around a shagbark in pure frustration. And maybe that's part of the reason so many guys hunt them—because it feels so good to quit when pheasant season comes in!

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**YOU'LL RING
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**GAME
NEWS**

Say...

**Merry
Christmas**

with

GAME NEW

Use

This

Form

Wait . . . and Be Sure!

LAST MONTH, WE GAVE some thought to getting into proper physical condition before taking to the fields and mountains for an all-day or all-week hunt. Our hope was that such conditioning would reduce the disabling or even fatal heart attacks which seem to be more common each hunting season. This was, and is, a worthwhile goal. But there is perhaps an even more important subject to be considered before going afield. For lack of a better term, we'll call it mental conditioning. Poor physical conditioning can incapacitate an individual hunter. But if that same hunter has poor mental conditioning, his attitude can endanger everyone in his section of the woods.

Our thoughts turned to this subject when considering Pennsylvania's Hunter Safety Program. As we hope you're aware, beginning September 1, 1969 (which is right about now!), anyone under age 16 who wants to purchase a hunting license here must present evidence that he has held such a license in this or another state in a prior year, or else show a certificate proving he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows. The basic goal of this program is to make safe hunters out of everyone involved. Frequent talks with John Behel, the program's coordinator, have indicated that perhaps the most important point here is creating the proper attitude in each student's mind—in effect, making him question the evidence of his own senses. Consider a deer hunter who has been in the woods since before dawn, concentrating on, searching for, thinking of nothing but deer. Suddenly there's a flash of white in the brush ahead. "It's a deer's tail!" his uptight senses declare. But is it? Or has another hunter thoughtlessly snapped a white handkerchief from his pocket? If the first hunter has had the correct mental conditioning, even as his hands try to raise his rifle in response to the sudden stimulus, his brain is commanding, "Wait! Be sure!" And the thing to do is be sure. If that white flash is a buck's tail, there's usually plenty of time to shoot, and even a missed opportunity doesn't mean the end of the world. But if it's another hunter, there isn't time enough in eternity to let you forget where your bullet went.

Every student who takes a hunter safety course—and we've had well over 200,000 in Pennsylvania so far—has had this wait-and-be-sure attitude drilled into him. This is fine, and we're certain it's going to pay off as these youngsters acquit themselves well in the years to come and a safe sport becomes even safer. But how about the older hunters such as you and I? All we've got going for us is the experience we've racked up through the years. Is that enough to keep us from making a terrible mistake during a moment of fast action? We certainly hope so. But the odds will be even better if we form the habit of "thinking safety"—consciously reminding ourselves before we ever raise a gun: "There's plenty of time . . . wait and be sure."—*Bob Bell*





How NOT to Miss Woodcock

By Byron W. Dalrymple

Photos From the Author

EVERY GAME BIRD, I'm sure, has its own very definite aura of romance in the mind of the individual hunter, and each hunter is certain to have a very special favorite. To me, though I am enamored of all, there is nothing quite like the thrill of hunting woodcock.

Somehow this really preposterously put-together cross between upland and lowland birds manages an almost apologetic beauty that is magnetic . . . the handsome pattern of its feathers set off against the ludicrous bill . . . the pop eyes compared to the lovely tinkling silver-chain sound as it flushes . . . the illusory instability of the weak beginning flight judged against the knowledge that here is a creature that migrates thousands of miles even though after a flush it ridiculously falls into a covert . . . the fact that many dogs that point woodcock disdain to touch one, noted against the background that on the table here is indeed a gourmet item to top them all.

None of these opposites seems to make sense. Everything about the woodcock is juxtaposed, and yea-nay. Not the least of the paradoxes are the accepted twin legends that woodcock are the craziest of crazy fliers and the most difficult birds on earth for a gunner to hit. Please note that I use the term "legends." I have yet to talk to a wing-shooter with woodcock experience who fails to bemoan this bird as the most exasperating of all before the gun. And, they continue, it is the more frustrating because the little woodcock is the world's greatest winged bungler. The plain facts are that neither legend is true. The woodcock hunter with the empty hulls and empty game pocket is

victim to that hoax called "woodcock psychology" perpetrated literally since the days of the blunderbuss.

It is interesting to ponder the fact that ruffed grouse are also considered extremely difficult and infinitely unpredictable targets, are unanimously thus described by gunners, yet the harvest in Pennsylvania in good average seasons runs to around half a million birds. Conversely, that of the Pennsylvania woodcock seldom tops 75,000. Part of the difference, of course, is that the woodcock is migratory, here today, gone tomorrow, while the grouse is a permanent resident. Also influential is the fact that grouse covers are far broader in the state and quite a bit less specialized than are the areas utilized by woodcock. Nonetheless, the feeling is general among hunters that woodcock are not only too difficult to find but fly too crazily and are too hard to hit to make them worthwhile.

This is unfortunate. Because of it, thousands of hours of delightful sport are annually wasted. And, without good cause. For woodcock are truly *easy* targets, once you lick the legends. Well I recall the day when this began to dawn on me. I'd been hunting ruffed grouse for years and had got fairly good at whacking them. As all grouse hunters know, many woodcock are flushed in certain types of grouse cover. But I just couldn't consistently clip these *little* birds.

I was sitting on the floor of our laundry room, cleaning a limit of grouse and a couple of incidental woodcock, and it suddenly hit me that these "little" birds weren't really little at all. So far as a shotgun pattern is concerned, a woodcock covers more of it in total than a grouse does.

The discovery startled me. You may even doubt the truth of it. But don't make any bets until you do some measuring. Bear in mind that woodcock move by wing hundreds of miles each fall and spring. They are long-winged birds, just as are the doves and pigeons, whereas the gallinaceous, or chicken-like birds such as grouse and quail are short-winged. The latter are ground dwellers who generally fly only in emergencies. The woodcock must fly a great deal as a way of life. In fact, the woodcock has a greater wing

If there were some way of rating outdoor writers, Byron Dalrymple would have to be right up there at the top. For years he has been an outstanding—and highly prolific—contributor to the nation's largest outdoor publications. We are proud to present this article, his first for GAME NEWS. We hope it won't be his last.



THE WOODCOCK is a "soft" bird, not difficult to drop, and a single pellet will often bring it to the ground. Once there, a good dog is helpful in typical thick cover.

area compared to its weight than any game bird except the various doves and the shorebirds. It is far greater than the ruffed grouse.

The female woodcock is generally somewhat larger than the male. The wingspread of a mature female may be as much as 18 inches. This same bird, not stretched but just laid out while still limp, will measure from bill tip to tail tip almost a foot. Males won't be quite that long, but will measure at least 10½ inches.

Now then, the woodcock is what might be called a "soft" and "timid" bird. I mean by this that a single pellet will bring it to ground. It is not difficult to drop, and does not have much tenacity when hurt. A duck, for example, can be struck lethally but may travel hundreds of yards and even then get below water with only its bill tip showing occasionally. It has a vast determination to save its life. A woodcock comes to earth and "gives up" even when barely grazed.

After I had measured my birds and compared them, I could no longer think of the woodcock as a small target. It isn't. Considering the rather unpleasant fact that even a wing-tipped or bill-tipped bird, or a bird with a single small pellet in the tail end, will drop, you are actually pointing out with your shotgun a whole target that might exceed a square foot in area. You would be

surprised how much this realization and way of viewing the problem added suddenly to my confidence. How the heck could I miss one?

It is worthwhile at this point to speak also of weight. Here again, woodcock are larger than you perhaps believe. They easily outweigh bobwhites. The smaller male weigh around six ounces as a rule, but the big females will average at least a full ounce heavier, and exceptional ones will top that by a surprising margin. One fall I shot a woodcock, female, that weighed 10 ounces! There are reports of others still larger. A young ruffed grouse, bird of the year, that is not quite mature at opening of season will weigh very little more, and will present, as we've seen, not as large a total target area to the shooter.

Now let's consider just how "crazily" woodcock fly. I'm sure all sportsmen who've watched them flush have the same mental picture. The bird comes tottering up almost from under foot, barely able to keep itself aloft. It bumbles through some overhead branches and either goes zigzagging and tilting off along a hillside or stream bottom, or else it simply falls like a stone into cover a few yards from where it first arose. Indeed, to the man with gun in hand fighting his way to get a shot through the screen of alders, this crazy careening is what *seems* to happen.

Watch Without Gun

When I first became intrigued with what I really didn't know about woodcock, I decided to do some watching *without* a gun. Much of it I did in summer while trout fishing, wading along at dusk. In summer, woodcock "trade," as it's said, back and forth along stream courses where they are nesting. Or, they will fly from a swale up onto a hillside to feed, but will keep getting up from one spot to move to another. It is an exciting pastime just watching them do this, unalarmed and flying naturally.

The first thing you'll learn if you do this—probably to your amazement—is that woodcock do not fly any "crazy" pattern at all. To be sure, they have what may appear at a glance to be an erratic wing beat. And, they "tilt" from side to side. But the zig-zag pattern you think you saw while excited and with gun in hand was exaggerated by your own rush to get in a shot. The *course* of flight is remarkably stable.

I recall on many occasions as I studied the birds that as one flew within what would

be easy shotgun range I pointed it out with my fly rod. I believe that had rod been gun I could have dropped every one. Of course, I didn't have any charge of adrenalin racing through my bloodstream. I wasn't under any stress. I was relaxed. But the "shooting," I began to realize, was ridiculously simple.

My next thought was about speed of flight. I have seen figures on the flight speeds of birds and I don't intend to repeat them. I'm not too sure they are accurate. Measuring the speed of a duck or a dove may be fairly easy, but timing the brief, hurtling flight of a grouse, or of a woodcock coming up through cover, isn't. I began to realize, however, in comparing as best I could the woodcock to a grouse, that the hunter has in general a false picture. The woodcock only *appears* to have a buzzing, bumbling flight, but in fact travels swiftly when once aloft. The illusion of slow, weak flight, it dawned on me, might well be one reason for so many misses.

Comparison With Grouse

I keep going back to comparisons with grouse because so many grouse hunters shoot woodcock or know them as incidentals. The big difference in the flush of the two is another confusing point to the shooter. The short-winged and really quite sedentary grouse gets off the ground at a far more acute angle than does a woodcock. It may tower over timber when once up and going. But a woodcock flushes in its normal cover very much like a cock pheasant. That bird must drag along its big tail. It flushes straight up with its head pointed skyward, its tail down, and its wings beating almost in a horizontal sweep to lift it. Then, at the peak of the flush—and many films have shown this—it tips over, so to speak, in the air and zooms away in flat flight.

Many pheasants are missed on the flush because of over or under shooting. The fact is, if one waits until the bird is right at peak, it will be virtually standing still and so easy to pot that it seems almost unfair. Woodcock are exactly the same. But, a hunter will say, "The difference is, you can't tell which way the little blighters are going to go." This is totally untrue. A grouse may fly right into your face trying to get to cover. A woodcock, which—agreed—may sit very snug and flush right from your boot toe, or from the very tip of your pointing dog's nose, lays an almost invariably predictable flight course.

For example, the next hundred woodcock

you flush will be squatting in at least some close ground cover. But the understory immediately above won't be dense. The first few feet above the bird may have a few branches, but will for the most part be fairly open, dappled with shade but not hemmed in. However, except in hillside shooting where clumps of brush may hide birds, the higher overhead cover woodcock select will undoubtedly have many crisscrossing branches. Stands of birch or poplar, alder thickets or thorn apple may spread above. Yet there will be holes up through those branches, and the flush of a woodcock will be, as old hands used to term it, "toward the light." Its long wings may hit branches as it bursts upward. But if you, the shooter, learn to look first for the "hole of light" before the bird flushes, you will know with few exceptions precisely where the bird will head as it gets up.

In addition, almost without fail a woodcock will drive up and then straight away. It won't come back to knock your hat off. A simple and far from devious soul, it heads straight from the point of danger. It may, as noted, drop into cover again almost immediately after the first flush. However, when you flush it the second time it won't repeat. That time, thoroughly alarmed, it will take off. Again, the flight will be directly away from danger. These longer flights will invariably be aimed toward the

TIMBERDOODLES are known to sit tight, and occasionally, if conditions are right and you're careful, a picture like this might be filed in your memory or album.



type of cover the bird favors. A small creek with alder-hemmed banks that curves gently away from the flush point will be a marker. The bird will curve to follow. A bird flushed on a hillside will almost always go down the hill or along the slope but slanting down, toward an inviting swale or more dense cover at the bottom.

Wingshooters are notoriously victims of hang-ups and all sorts of psychological hazards. Shotgunning is not the precise endeavor that rifle shooting is. So, we get a fixation of sorts passed down from one to another and we repeat over and over that—



MANY DOGS DISLIKE retrieving woodcock, either because of a taste or smell factor, but Dalrymple has had good luck with spaniels.

in this instance—the woodcock is a tough one, and sure enough we make it so. But now, as we've seen so far, this bird is a very good-sized target, a quite predictable one, and that its flight pattern is a popular illusion, not a fact. Armed with this knowledge, one can head for the woodcock coverts with a great deal more confidence than formerly. Now he *knows* he can hit the birds.

However, he ought to take along a proper gun. Many shooters do not. For several seasons I hunted with two other hunters who liked woodcock shooting. We had discovered a half mile of cover that always collected a swarm of birds during the flight. I took pains to pace off the shots that we connected on. With a four-bird-per-day limit,

we could collect a dozen. In the bagging of six limits—72 woodcock—I was astonished to find that the majority were dropped at roughly 10 yards. Two-thirds were picked up within 20 yards, and not one bird was past 25. It was revealing.

Quite obviously, at such short ranges, and with erisscross of limbs in the way, a lot of shot and a broad pattern were the basic key to easy hits. There will always be differences of opinion about shot sizes, I'm sure, but I settled on No. 8s in a low-brass load and it has worked just fine for me. I used to use any old choke, and indeed often hit with a full-choked 20 gauge. I like the 20 for many reasons. It's light, easy to handle, and has almost no recoil. I used full choke as a challenge. However, I soon discovered that a more open barrel was far better.

Cylinder Bore

Then, recently, I made another discovery. I had really never quite believed that cylinder bore shotguns were much for hunting. But it began to dawn on me that one had to specify what *variety* of hunting. Also, the new shotshells, with their new methods of loading, shoot much closer than older ones did. Thus, just as a rough rule, one may say that, regardless of what choke you use you are shooting today's loads one choke more snug. I began experimenting with cylinder and improved cylinder. Experiments done years ago by Winchester showed that, even before the new loading techniques, an improved cylinder boring put almost all pellets into a 30-inch circle at between 15 and 20 yards, and at 25 yards the killing pattern to be expected was 42 inches across. Using No. 8 shot, there are 410 shot on the average to the ounce.

So, with the new loads, using straight cylinder bore is a most effective gimmick. Think of it as shooting at a bird from 16 to 18 inches wide and from 9 to 12 inches long, and all you have to do is place it somewhere in a pattern, even at short ranges, of anywhere from 30 to 50 inches in diameter. Already you can't miss!

To remove one more hurdle, experimentally I took to using a shotgun of 12 gauge, one of those double-automatic two-shot models. My reasoning was that, in a crisscross of brush overhead, or the confusion of it at least to the eye, I found myself sometimes fidgety about trying to get off a second shot if I missed on the first one. The brush made me try to hurry. There was with my several 20s the mechanical act of working

the pump action. With the little auto, which is short for easy handling in close cover and has almost no recoil, all I had to do was fire. This was one more hang-up licked. I just felt, literally, that I could not miss. And I didn't miss very often.

All in all I had come to feel over the years that it was not the bird, but the brush, that really was giving hunters such a fit of exasperation. The target was seldom clearly and openly defined, as it often is in quail or pheasant hunting. The shots were generally much closer than with any other bird, and the screen of branches was thus exaggerated. I tried to train myself, knowing how many pellets and what a big pattern I was throwing, not to even see the brush—just the bird. All sort of psychological, but it worked. I also quit, in shooting woodcock in heavy overhead cover, swinging my gun.

As all of us have been taught for years, we are supposed to point out the target, swing with it and to the point ahead where we want the bird and pattern to collide. This is real nice in skeet or waterfowl shooting. But I am a holdout when it comes to woodcocking. Just point and snap. The bird is too close—keep telling yourself this—to do anything else. If it's rising, snap at it at the apex. If it towers above scrub poplar, blot it and ditto. If it is going away, blot it and snap . . . branches and all. In typical bottomland woodcock cover, the things you need the least are complications and rules out of a book.

Pennsylvania Hills

This gets us to consideration of a woodcocking matter in which Pennsylvanians are indeed fortunate. I have shot these birds in a number of states. Most of the places where I've shot had few hills. Pennsylvania is loaded with hills, and don't think the woodcock shun them and all stay in the valleys. A very famous Pennsylvania hunter, the late John Alden Knight, who about 25 years ago wrote one of the best books about woodcock ever printed, had discovered hillside woodcock hunting. Most woodcock hatched in the state will be hanging out along the stream courses and in the lower places. But when the swarms of flight birds come through—and Pennsylvania is one of the important flyway states—they will generally pour in during the night and tumble onto the south exposures of hills. Abandoned farmlands, areas with brushy clumps yet with much scattered more-open cover in between, are ideal in Pennsylvania. The same type





EVERY GAME BIRD has its own aura of romance in the mind of the hunter. To Dalrymple, there is nothing quite like the thrill of hunting woodcock.

terrain does not necessarily hold woodcock in, say, northern Michigan where I have often hunted, because they have too much more suitable bottomland cover. But in Pennsylvania these hills are ideal.

No one except an experienced local woodcocker can tell you which hills to hunt. You have to find these. But, as with cover favored anywhere by woodcock, invariably if the cover is not changed by humans there will be birds using the same spots year after year. Thus, the search for good grounds is well worthwhile. And, for the beginner, these hills are wonderful. Why? Because they remove most of that big hurdle of overhead cover. Alder and thorn apple patches in Pennsylvania may be excellent, but they are

rough on a hunter. If he learns first to hit birds on the slopes, he'll soon see how easy it is in the thickets. Then is time enough to take the tough course, down along some alder-bordered rivulet in the valley.

Although pinpointing precise coverts is hardly possible here, for hunters who wish to try concentrating on woodcock this fall we can give some general pointers about locations. For example, both Crawford and Erie Counties in the northwest should offer good opportunities. Many of the tracts where pheasants are found will have woodcock along the woodlot fringes.

When the migration is on, fair shooting can be found in some of the northcentral counties: in the north and east portions of Tioga; in the southern part of Clearfield; in Centre County's Bald Eagle Valley, long famed for flight birds; in Elk and Cameron Counties in Bennett's Valley.

Taking the state as a whole, probably the highest quality shooting of all will be in the northeast during the migration. Much of this is shooting along stream courses, lake borders and the edges of marshes where there is overhead cover. Sullivan County is generally considered best of these counties, but Luzerne, Lackawanna, Monroe and Pike are also good bets. There are numerous State Game Lands here on which to hunt.

All of this, then, I hope will help teach you how *not* to miss woodcock. It's far more fun to hit 'em. I recall with amusement going over much the same material verbally with a frustrated woodcock hunter a few years ago. He scoffed. But later he wrote me a letter. He said, "It's odd. I'd been repeating the myths for years, and missing. Even though I laughed at your lecture, I listened. Now I know it's true. Who can miss a woodcock? Not me! I've found out it's far more difficult than hitting 'em!"

Was he pulling my leg? I dunno. He sounded happy.

GAME NEWS Binders Available

Response to heavy public demand has produced a binder capable of holding a full year's issues of Pennsylvania GAME NEWS, the official monthly publication of the Game Commission. Many persons have complete files of the magazine dating back over a number of years, and have requested binders in which to file the issues. Binders which hold twelve copies of the publication are now available for \$2 each (\$1.88 plus 12c tax) from the six field division offices of the Game Commission or from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120. The price includes cost of handling and postage.

DOVE DATA

By Brooke Focht

FOR THE SECOND consecutive year, Pennsylvania Game Commission field men in seven southeastern counties are again performing an important function in a federally-financed study of the dove aimed at answering some perplexing questions about this bird which is now considered the most important of all migratory game birds in America.

Game Protectors in Berks, Lancaster, Chester, York, Lebanon, Lehigh and Montgomery Counties make two, three and sometimes four daily trips along traplines set in dove concentration areas. The doves are live-trapped, banded and then released to follow their normal life patterns.

The state's hunters, too, have an important part in the dove study. Nimrods who bag banded doves are requested to provide the band number and the date and location where the dove was taken. This information should be given to any Game Protector, Game Commission division office, the commission's Harrisburg headquarters or to the U. S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Laurel, Md.

State biologists in Harrisburg and federal men at the Maryland center will study the compiled data, hoping eventually to learn more about the migratory movements of doves in the far-flung study area which includes most of the Atlantic Seaboard. Biologists decided to trap birds in southeastern Pennsylvania since that is the Keystone State's best dove area.

All survey costs will be paid by the U. S. Fish and Wildlife Service. The federal survey is being made because the dove is the most important of all migratory game birds, being harvested in greater numbers than all species of waterfowl combined in the northeastern states.

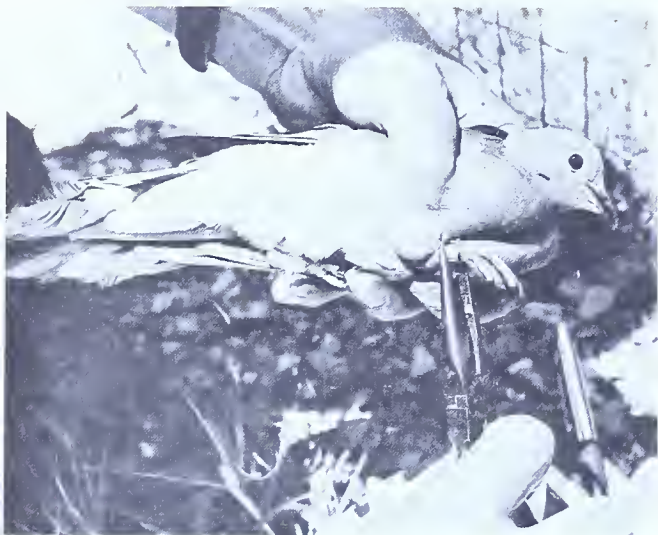


RESEARCH CHIEF Harvey Roberts and Acting Game Protector Rey Ketner place grain in dove trap. After banding, birds are released to follow their normal life patterns.

Only Pennsylvania, Rhode Island, Delaware and West Virginia of the northeastern states permit dove hunting. Since the species is migratory, it is regulated by the federal government and is watched over carefully by the Fish and Wildlife Service in partnership with state game departments.

The Pennsylvania dove study is supervised by Harvey A. Roberts, chief of the Game Commission's research division. Roberts moves throughout the seven southeastern counties coordinating the efforts of the Game Protectors on their traplines. Banding will continue through 1970.

Game management men believe more shotgun shells are fired at doves than at any other game bird in the continental United States. And this despite the fact that many states still



HUNTERS WHO RETURN bands from harvested doves greatly help research program, which in turn will help them.

protect the grayish-brown darters of the grain belt. It is estimated that the dove harvest in America exceeds 20 million birds each year. Since the average gunner fires four or five shotgun shells to bag one dove, the sporty bird has a tremendous economic impact on the sporting scene. Dove hunting is big business, indeed!

There are still many unanswered questions about the dove. For instance, what percentage of local doves make up the season's harvest? What percentage of birds taken in Pennsylvania are native to the states to the north? What percentage of doves bred locally go south for the winter and return in spring to reproduce in Pennsylvania?

Some interesting information has been turned up in the survey. Of the 552 birds banded during the summer of 1968, 36 or 6.7 percent were recovered and reported by hunters. Out-of-state recoveries were reported from Daugherty, Va.; Whiteville, N. C.; Moultrie, Ga.; and Panama City, Fla.

Biologists already have noted that dove populations are more stable in states which permit hunting them. Roberts believes that hunting pressure is not as important a factor in dove population as are disease, predation and weather during peak nesting peri-

ods, usually from April to September.

Doves became legal game in Pennsylvania in 1945 and since then the sporty shooting offered by the birds has captured the fancy of both veteran and novice shotgunners. Many experienced dove hunters find a flyway and station themselves in cover to take the birds as they pass from feed to water and back to roosting places. During the dull afternoon periods hunters often get excellent practice for the pheasant and grouse seasons by jump shooting doves in standing cornfields.

Acting Game Protector W. Raymond Ketner of Berks County is a typical dove bander. During the summer of 1968, he had a line of 31 dove traps along dirt lanes which traverse the Lake Ontelaunee watershed located only a few miles from the Game Commission's southeast division office near Reading.

Dove traps are similar to those used by bird dog trainers to retrap bobwhite quail which they liberate to provide dog work on game birds. The traps are made of 1 x 2 welded wire and are 24 inches long, 24 inches wide and eight inches high. Each trap has two funnel-type entrances, two inches in diameter, made of the same wire as the trap. One end of each funnel extends several inches into the trap. Once inside, doves can't seem to understand that they could also use the entrance funnels as exits.

Ketner used cracked corn and wheat to bait outside and inside the traps. Some Game Protectors use milo and sorghum as bait. Doves feed almost exclusively on small seeds and waste grains from harvested fields.

Many species of wildlife turned up in Ketner's traps. These included robins, grackles, pheasants, flickers, cowbirds, blue jays, catbirds, rabbits, small mallards, thrushes, starlings, squirrels and wild house cats. Ketner says the squirrels and cats really raised Cain in the traps. All were released.

Some doves found Ketner's trapline very much to their liking, becoming regular "freeloaders." One dove, a

female, and Ketner almost became friends. He called her "Old 54" because she carried a tag placed on her right foot by Ketner which bore the number 19054. Ketner caught this bird 10 times during the first four weeks he trapped in the Lake Ontelaunee game propagation area. Five other doves were trapped several times each.

Small cottontails, too, found Ketner's trapline attractive, although some have figured out how to escape the traps. Ketner turned to commercial rabbit repellent spray to prevent the bunnies from eating all of the bait scattered around the traps. Ketner saw one small rabbit use the trap entrance as an exit, and patches of bunny hair left inside other traps proved that the cottontails eat and then depart.

One day Ketner saw a dove, apparently a parent bird because it was large, warn an immature bird which was about to enter the trap. Ketner said the larger bird used its tail and wings to beat against the tail of the other bird which was part way into the trap. The younger bird cautiously backed from the trap entrance. Both birds then flew away.

Biologists have determined that the male dove helps his mate rear the young and both parents share in incubating the eggs. During the first few days after they are hatched, young doves are fed fluid "dove milk" regurgitated by both parents. This is replaced gradually by small seeds until older nestlings are fed only seeds or waste grain. After leaving the nest the young are partly dependent upon the parents for a week or two. Another

brood may be started while the flying young are still being cared for by the adult pair.

The "dove line" serves another worthy purpose at the Lake Ontelaunee watershed. Noticing that the trapped birds were attracting predators which became bold enough to try killing them in the traps, Ketner strung another line of 15 regular steel traps. He caught 38 raccoons, three gray foxes and two weasels in less than three weeks.

Dove survey equipment includes aluminum numbered leg bands, long-nosed pliers to fasten the bands, a clipboard and paper forms. On the forms the Game Protectors note by use of a code provided by the Fish and Wildlife Service the type of bird, its general physical condition, its sex and apparent age, banding location and the date banded.

At the conclusion of each year's banding operation, Game Protectors send their information sheets to Roberts who makes copies, retains one set for his own use, and forwards the others to the Maryland research center. There federal biologists study the information provided by the field men from the various states. And when information on the bands is sent in by hunters, an idea of the birds' flight patterns and life habits can be ascertained.

Ketner's efforts already have raised another unanswered question: Why has dove trapping proved more productive on cloudy days? Perhaps the biologists will come up with an answer several years hence.

Oven Barbequed Dove

Prepare double thickness of broiler foil sufficiently long to wrap doves when prepared for roasting. Place dove breasts in center of foil. On top of each place several pieces of bay leaf. Sprinkle with poultry seasoning and sauteed onion. Season with salt and pepper. Slice thinly 1 large Bermuda onion. Pile slices on top of breasts. Lay strips of bacon on top of onions. Drizzle about a half cup of barbeque sauce over all. Using the "drug store wrap" seal top and one end of package. Tipping the package slightly, pour about one-half cup water in the open end, then seal completely. Bake in 350 degree oven for about two hours. To crisp the bacon, unseal top of package and place under the broiler a few minutes before serving.—*The Rev. George L. Harting*



PANIC!! PANIC!! PANIC!!

By J. R. Matson

THE UNFORTUNATE victim in a case I'm going to describe here was middle-aged and in apparent good health. He had hunted deer in the East, elk and moose in the West and North. Presently, he was a nonresident guest at a hunting club. Due to his seemingly extensive experience, no concern was felt for his safety. He was to be placed in preferred positions with instructions to remain at his post until one or another of the drivers would conduct him to another watch as the hunt progressed.

The guest was posted at a fallen tree where an elevated stand insured a good field of view. Though the sky was overcast, temperature in the twenties and a light tracking snow promised good hunting conditions. However, a threatening storm soon induced some of the party to return to camp while others continued with the hunt until late afternoon. Meanwhile, a deer was killed and the return of the lucky ones was delayed until dark.

At camp, no concern was felt for the guest who was believed to have left his post to join others in the continuing hunt. When he did not return with the late arrivals, a search was immediately instituted. The area was patrolled, shots were fired and fires were kept at strategic places through the night. The continuing storm obliterated all sign.

During following days, rangers, wardens and others continued an intensive search, but without avail. Months later a lone trapper noted unusual activity of foxes in an area miles away from the scene of the tragedy. He followed the trails and found, not a dead deer as expected, but the mutilated remains of the lost man.

The mystery was never solved. Here was the case of a man in the prime of life, in good health and with what appeared to be

rather extensive hunting experience, dying in the woods. Actually, his condition was that of an indoor worker whose woods experience had been limited to annual vacations of a few days or weeks under the supervision of guides. No doubt the unfortunate man thought himself to be well qualified, though in truth he was ill-fitted to cope with an emergency in the woods.

While no blame or censure was attributed to members of the hunting party, afterthought suggests that a thoroughly competent man should have been charged with responsibility for the stranger's guidance. In that case his absence from his post would have been immediately noted and he could have been found before his tracks were covered.

Many theories have been advanced for the cause of this tragedy. The obvious fact is that for unknown reasons this man left his post, became involved in the rough terrain adjoining the hunting area and wandered away in an increasing state of confusion, fright, fear, despair and terror until overcome by exhaustion. Somewhere along the way he had abandoned his rifle—a clear indication of extreme distress—of panic.

Emergency Reaction

How a man will react in an emergency depends on his characteristics, his training and experience. Volumes have been written on what to do when lost in the woods, but all too often when the situation arises reason is supplanted by terror and panic drives the victim to exhaustion. A lost person who retains his composure is rather easily found; in fact, he is seldom actually lost. But the situation of a panic-stricken, exhausted man is serious.

On a fine fall day three friends, Dr. James S. Dawson, L. P. Bennett and O. M. Baukus, left their camp to visit an island a few miles distant. Dawson and Baukus were experienced hunters. Bennett was a banker, not accustomed to outdoor life. All were middle-aged and in good health. Although not the

Panic is often defined as "Sudden fear or fright affecting large numbers at once—often upon slight occasion." In the present title it implies unreasoned action induced by fear, possibly resulting in the death of one or more persons.—J.R.M.

purpose of their trip, the two hunters carried shotguns for a chance shot at grouse or ducks for the table. Their object was to inspect a set of lumber camps that had recently been abandoned. The character of the island and about half of its shoreline could be seen from the canoe as it approached the landing place. On the walk to the camps the three men would travel together, so there was no thought of possible misadventure. If they thought of it at all, the two hunters assumed that their guest observed and understood the conditions. Later developments revealed that he understood little.

Where the main road met the lake shore, conditions were found to be unsuitable for landing. The canoe was secured on a sandy beach about 100 yards from the shore end of the road. From that point a path led through the brush about 150 yards to the road. The three men followed this path to the road and thence to the camps. On their return in late afternoon a flock of grouse flushed near the point where the path joined the road. As the third man did not carry a gun, he was told to go to the canoe by the path which was in plain sight and about 50 yards distant. The two hunters then went into the brush in opposite directions to hunt the birds. At this time the sky was clear, the lake was calm and over an hour of daylight remained. There would be a full moon for the return trip by canoe.

No Sign of Missing Man

During the following hour several shots were fired within one-half mile of the canoe. Returning to the landing shortly before dark and finding no one there, one of the bird hunters lay down and was soon asleep. He was aroused at dusk by the other hunter, who was not accompanied by their guest. For the present no concern was felt and his return was expected at any moment, but when he did not respond to calls shots were fired at intervals. Meanwhile darkness had fallen and the moon was obscured by clouds. Thinking their man had strayed too far along the shore or on the road, one of the hunters went in search back to the camps while the other patrolled the beach. There was no response to calls or shots and no sign of the missing man was found. For lack of a better idea, the two men paddled the length of the island, keeping about 100 yards offshore and calling at intervals. The distance from shore to the height of land was such that the searchers reckoned their calls could be heard on the windward side of the island. After

patrolling the windward, with no results, they decided to try the leeward side.

As the canoe rounded the rocky end of the island, one of the men thought he detected a movement high up on the promontory as the moon shone momentarily through a rift in the clouds. Allowing the canoe to drift closer inshore, they could barely discern their missing man tearing over the rocks on the steep incline at a furious pace. They called to him to take his time and be careful. He continued his mad rush to the water's edge and into the water. He was restrained with some difficulty from overturning the canoe as it pitched among the waves and rocks near shore. It was necessary to speak to him rather sternly before he could be taken into the canoe.

Once safely aboard his excitement subsided. Although still under stress, his voice soon became normal. His companions made no point of the matter, addressing him and each other as if nothing unusual had happened. Later, in response to an offhand inquiry, he explained that he had acted according to instructions but could not find the canoe. His hands and face were considerably scratched, his clothes torn and he had lost his hat and glasses. Privately, the doctor conceded this to be a case of near exhaustion where anything might have happened. Apparently, this man did not recognize the path pointed out to him or wandered from it on the short trip to the canoe, and finding himself alone in the brush he was seized by that overpowering fear which deprives a man of reason and drives him beyond the limit of his strength.

It is difficult to account for this mishap and probably useless to try. He declared he could not find the canoe, therefore he must have missed his way on a trip of less than 200 yards. Though he insisted he had heard no calls or shots, he must have heard the shots fired at grouse, for there was no wind at that time and it seems unlikely that he could have crossed the height of land in the interval. One might surmise that in his frantic haste through the brush he did not recognize the shots for what they were. The presumption is that he was overcome by fear when he found himself alone and dashed about in unreasoning flight until found.

Another case will show how a well qualified man solved his problem by coolness and conservation of his energy. Hunting alone in Asaph Run in Tioga County, Hugh McInroy of Wellsboro shot a deer within a mile of his camp. As it was late in the day, he dressed



THE CANOEISTS CALLED TO the missing man to take his time and be careful. He continued his mad rush to the edge and into the water.

the deer and raised it on a sapling. Storms and other matters delayed his return for two or three days. Many trees were broken and saplings were bent by the weight of snow. All trace of his trip from the vicinity of the deer had been obliterated.

About midforenoon of a fine day he set out to bring the deer to camp. He anticipated no difficulty hauling it downhill, in spite of the depth of snow. On the ridge, he found that the storm and down timber made familiar ground unrecognizable. The flat top of the ridge was an area of considerable extent. Although the deer was but a short distance from the near (north) side he could not find it. Making allowance for possible error he widened the scope of his search. In the confusion of down timber and snow-laden saplings, the sky was visible only through occasional openings overhead, making it difficult to ascertain his bearings and maintain a course. He knew he was north of a fire line that ran east and west near the south side of the ridge top. By sun direction he tried to cut the fire line but it was filled with down timber and he could not positively identify it. Eventually he came to the edge of the ridge top but on the opposite

(south) side. It was now late in the day and he was tired. Rather than try to unravel his backtrack through the difficult conditions that lay behind, he took the easy way out. Wading leisurely through knee-deep snow he was soon on a familiar woods road and eventually arrived at the home of a friend several miles from his camp.

This incident was of small concern to Hugh and he merely mentioned it. The purpose in relating it here is to furnish another illustration of conditions which might have led to serious consequences for one not so well qualified to deal with an emergency.

No person who has traveled extensively in the woods has escaped the sensation one experiences when the sun seems to be setting in the east, or a stream runs the wrong way, or land that should slope up slopes down, or one finds himself on the far side of a stream he did not cross, or the compass seems to point south. Such predicaments are rather common. Experienced travelers become accustomed to such situations. They recognize their errors, correct them and go about their business. But to one unaccustomed to being alone in the woods, confusion comes with a shock which in some

cases completely overthrows reason.

While mental capacity is a factor, it is no guarantee against the sudden seizure of panic. Men of fine intellect and education have experienced it. Natural or acquired composure and physical stamina are good insurance. Comforting assurance may be acquired by accepting the conviction that one is safer alone in the woods than on a city street; that distances are great or small only in relation to one's ability to travel; that energy must be conserved; that in an emergency it is better to be where you are and well preserved than anywhere else in an exhausted, helpless condition.

Reports from the hunting territories supply convincing evidence that panic seizes those who are not prepared for woods conditions and travel. Explorers, timber cruisers and woods workmen are seldom victims of panic outdoors. Police, rangers, wardens and native residents who are called upon in emergencies testify that most woods tragedies could have been avoided in situations that should have been of small concern.

The childish fear of being alone in strange places is dispelled by calm deliberation. Momentary confusion, hunger and cold are to be borne with fortitude. Those who have looked into the eyes of a panic-stricken man, and have seen the hideous grin of fear and desperation on his face, know what a terrible thing panic is.

Happily, the prospect is not so dark and fearsome. There is always the comforting assurance that generations of children have played in the backwoods; that their parents and grandparents lived their lives in a vast wilderness, without thought of harm; that one is safer alone in the woods than on a city street, vastly safer than in an automobile on the highway. The diversions afforded by the woods and streams are the priceless privileges of all and are there to be enjoyed without fear of harm.

The combinations and permutations of personal capability, weather conditions, topography, time of day and other factors affecting our activities in the woods, are endless. I shall not risk revealing my own incompetence by telling others how to avoid getting lost in the woods or what to do in such event. The thoughtful reader will find, in the incidents cited, the elements of sen-

sible procedure. Before we go to the woods it would be well to do a bit of soul searching. One might ask himself: "Am I apprehensive when alone in a strange place? Am I afraid in the dark? Am I fearful of cows in a pasture? Am I frightened by weird sounds at night? Am I disturbed by the prospect of missing a meal or two or of spending a night in the open? Can I walk 10 or 20 miles without strain or fatigue? Am I physically and mentally conditioned to seek adventure and really enjoy extremes of weather and temperature?"

In one of his fascinating books Kenneth Roberts propounds the ancient maxim:

Better than valor in a military man are vigilance and caution. In that context a "military man" is one conditioned, trained and experienced. Valor may or may not be consistent or prudent in a critical situation but *vigilance and caution are always essential*.

In the summer of 1941 a little girl of seven or eight years strayed from her parents on a picnic party in an extensive tract of wild land. When a hasty search failed, the authorities were notified. A wider search of the surrounding territory failed to locate her. The ranger in charge questioned the parents concerning the child's characteristics, then ordered a thorough investigation of the immediate vicinity, the searchers maintaining alignment and sweeping the ground practically hand to hand on overlapping courses as one would mow a lawn. The child was found not far from the place from which she had strayed. She had made a little playhouse or nest in a thicket and had become so engrossed with her project that she was oblivious to the activity about her. She was unconcerned except that she was "a little bit hungry" and wondered "Why had Daddy been so long?"

This is a perfect example of what a lost person should do—*make himself as comfortable as possible and await rescue*.

The parents of this little girl were wise people. Their child had no fear of being alone, or of strange places, or of the dark, or of bears. And she knew her daddy would come for her.

Given the inborn reason of a child, proper parental influence and the nest-building instinct of the female—and panic is no problem.

Must Be Significant Somehow

The eyes of an ostrich have been known to weigh more than twice as much as its brain.



GRANNY SLOWLY EASED ACROSS an open spot in an attempt to get a shot, but the deer spooked. Nevertheless, before the hunt was over she had scored.

Granny's Doe—With the Bow

By Eldy Johnston

IT WAS a long time to wait since 1955, but Granny—that's my wife Gertie—said she didn't mind a bit. She had just attached her tag to her first deer taken with a bow. The "Granny" title came about with the arrival of our first grandson, Don Charles Richards, some three months earlier. My hunting record with a bow was slightly better, since I've tagged three white-tails—but over a longer time.

Born and reared as she was, in the Borie section of Potter County, Gertie should have been immune to that strange hunter malady called buck fever. She could look out the window of her father's farmhouse almost any early morning or late afternoon and

see deer. She chalked up her first buck with a rifle in 1941, but it was not until she took up bow hunting in 1955 that she developed a genuine liking for the sport. As Teachers Institute usually falls during archery season, our vacationing children accompanied us to our hunting camp on the Prouty in Sylvania Township, Potter County.

I said that my wife *should* have been immune to buck fever, but that wasn't necessarily so. Her first miss at a buck was when one charged up to within 12 feet of her place of concealment and her arrow "grazed" it (by at least four feet). As I tried unsuccessfully to dig the razorhead out of a hemlock root, the only comment of

With great regret we must tell you that on June 22, 1969, just as this issue was going to the printer, we learned that Eldy Johnston had died. Eldy, whose home was in Irwin, Pa., was the outdoor columnist on the McKeesport "Daily News," a member of the Pennsylvania Outdoor Writers Association and the Outdoor Writers Association of America, and a frequent contributor to GAME NEWS, as well as a friend of many years. He will be missed.

consolation I could offer was, "At least you used full draw."

Our bow hunting strategy is to locate recently used deer trails and intercept the critters in their travels to and from the feeding areas. It's a challenging method, if you take the time to learn the habits of the deer in your favorite area.

The 1968 bow season found us in Potter County for the first week of deer hunting. We were alone this year, as my archery buddy couldn't get off work. Our previous trip had been in May, for the spring gobbler season. We noted that the farmlands above us had been cut up into lots and some of the camps were already occupied, but as our property bordered state land, we had little fear of too much competition.

We had originally planned to hunt early in the morning and late afternoon, but a shift in the deer population called for a change in plans. The deer were moving down off the mountains after dark and returning before daylight, so our only chance was to hit the woods before dawn, climb the

gullies and wait for them higher up. About Wednesday, we thought it advisable to camp on top of the mountain and save the morning climb, but the weather appeared threatening and we returned to camp.

Came Saturday, the last day of our planned hunting trip. I had missed two bucks at 35 yards, and Gertie hadn't loosed an arrow as yet. It was now late in the afternoon and I had moved three deer on the top of the mountain. They ran quickly to the head of the hollow where I assumed Gertie would be by now.

It was a good 500 yards to where I thought my wife should be and I made my way quickly but as quietly as possible. As a light rain had started, I hastened my footsteps until I reached the cut where she said she would be. Seeing her against a hemlock, I climbed down to her position. She said that she had hit one good, but was waiting for me to trail it. With the rain, I knew that haste was important, and on the maple leaves it was a tedious job finding the trail, although the deer had bled freely.

At the bottom of the hollow, I lost the trail in the dry creek bed. While Gertie stood at the last visible bloodstain, I hurriedly scanned the red maple leaves for telltale blood signs in the now steady rain. Then I saw her doe at the foot of a hemlock. It had traveled but 60 yards downhill before callapsing.

As we dragged her deer down to the car, nearly a mile away, I couldn't resist saying "You're finished for this deer season. Guess I'll have to come up again with Tommy Bauer."

Which I did.

Young Hunters—Are You Trained?

Beginning September 1, 1969, no hunting license will be issued in Pennsylvania to any person under the age of 16 unless he presents either (a) evidence that he has held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.



Race Against Extinction . . .

Our Man-Made Environmental Crisis

By Lamont C. Cole, Ph.D.

Ecology and Systematics Section, Cornell University

ECOLOGISTS represent a small group of persons who try to anticipate the effects of environmental changes. Unfortunately, these changes are often subtle and slow, and most of mankind is impatient to get on with changing the world whether by physical and chemical means or by dispersing exotic plants and animals. Man has created most of his problems. As a

single example consider the Welland Canal which permitted the herring-like alewife and the parasitic sea lamprey to enter the upper Great Lakes. The alewife became a valuable forage fish for lake trout which were the basis for commercial fisheries yielding millions of dollars annually. But the lamprey destroyed the commercial fishery. With their predators gone the alewives multiplied without restraint with the result that for the past two summers newspapers have carried pictures of mountains of dead alewives polluting Chicago and Milwaukee beaches. The original Welland Canal was opened in 1824 and the present canal dates from 1932, so, in this case it took over 30 years and perhaps more than a century for the disastrous consequences of an engineering project to become evident.

Man has been changing his environment almost from the beginning. Neolithic man used fire as a tool probably, first to drive game and later to

Dr. Cole's paper is reprinted from the book entitled "Exploding Humanity" with the permission of the International Forum Foundation. "Our Man-Made Environmental Crisis" is the first of fourteen chapters, each written by an articulate, world-renowned expert, on as many aspects of the population explosion. The book, edited by ecologists H. A. Regier and J. B. Falls of the University of Toronto, is available for \$2.50 from Anansi Press, 671 Spadina Avenue, Toronto, Canada.

clear forests for grazing. By an incredible stroke of luck, the grasslands which were created by fire and maintained by fire and grazing developed soils that eventually made them among the world's most valuable agricultural lands.

Of course smoke polluted the atmosphere but man had already seen this happen from natural fires. The burning of vegetation on slopes led to erosion, polluting streams and sometimes blocking them to produce swamps and marshes.

Later, man began his serious agricultural efforts on the flood plains of rivers where the land was well watered and easy to work with simple tools. As populations grew he felt the need for more land and year-round cultivation. He built dams and canals for irrigation and established great civilizations. But he often failed to

THERE IS LITTLE DOUBT that spraying orchards has resulted in better fruit, but some chemicals have long-range effects that are frightening.

Photo by Grant Heilman



provide for adequate drainage with the result that water moved upward through the soil, evaporated there and deposited salts on the surface, thus destroying fertility. Burning, cultivation, and the grazing of slopes caused erosion so that the irrigation works filled with silt and the civilizations collapsed. Modern Iraq could not feed the once great Babylonian Empire, nor could modern Iran, neglecting the income from oil, support the Persian Empire of Darius I.

Man's earliest industrial efforts created unrecognized pollution problems that many persons fail to acknowledge as we continue the practices today. The Romans mined lead in Britain and smelted it there, and it is said that the sites of those old smelting operations are still recognizable from the impoverished vegetation growing on the poisoned soil. In Rome the lead went into paints and water pipes and to line the vessels in which wine was stored. Recent studies of Roman bones have shown concentrations of lead that indicate that many members of the upper classes must have suffered from lead poisoning—it has been suggested that this may have contributed to the decline of the Empire. But we refuse to learn. Modern industry and the burning of ethyl gasoline are putting tremendous quantities of lead into our environment. A recent study of old elm trees showed a rapidly increasing concentration of lead in the wood produced since about 1937, and a study of snow near the north pole has shown a 300 percent increase in lead content since about 1940.

When man started contaminating the world his impact went unnoticed, but by at least the twelfth century we find contemporary accounts of severe air and water pollution, for example the "poisonous vapors" of Rome and the "lethal waters" of the river Rhine (a name incidentally supposedly derived from the German word for "clear"). But man created a new dimension of environmental deterioration when he began serious exploi-

tation of the fossil fuels, peat, coal, natural gas, and, more recently, petroleum.

It is recorded that in the year 1306 a citizen of London was tried and executed for burning coal in the city. But three centuries later this was the

***DDT is everywhere—
we're just plain lucky it isn't
even more poisonous than it is***

way of life and London had a smog problem. The profession of chimney sweeping was born and along with it one of the earliest and most striking examples of severe industrial pathology: cancer of the scrotum induced by exposure to soot. It is interesting to note that Los Angeles has recently banned the burning of coal in the city, so man has in a sense come full circle on this one problem.

We are now so dependent on fossil fuels that surveys have found farmers expending more calories running their machinery than are removed from their land in crops. Industrial plants, transportation, especially by automobile, and the heating requirements of an expanding world population have brought the combustion of fossil fuels to the point where we are actually causing measurable changes in the composition of the earth's atmosphere. And, as we shall see, we are risking much more serious changes in the atmosphere than anything noted so far. And never before has man been able to spread particular pollutants over the entire surface of the earth. DDT is a case in point; it has been found in the fat of Antarctic seals and penguins, in the fatty tissues of fish all over the world, and in the ice of Alaskan glaciers. We have simply been incredibly lucky that DDT has not turned out to be a more noxious pollutant than it is because, if it had happened to possess certain properties that no one would have known about until it was too late, it could have brought an end to life on earth.



Photo by Grant Heilman

AERIAL DUSTING OF potatoes is a fast, efficient way to control unwanted insects, but what are the ultimate effects of this treatment?

It may be comforting that DDT is not as bad as it might have been but reflect on the fact that the U. S. Food and Drug Administration estimate that we are now exposing ourselves to over a half-million different chemicals all of which must eventually be imposed on the earth environment, and the number is estimated to be increasing by from 400 to 500 per year.

Consider the completely novel types of materials we have asked the environment to assimilate just since World War II: synthetic pesticides, plastics, antibiotics, radioisotopes, detergents. The detergents provide an instructive case. A few years ago people could see this pollution and they were agonizing because suds were coming out of their faucets. The answer was to turn to the so-called "biodegradable" detergents, and the public relaxed, considering the prob-

lem solved. They don't realize that the new detergents are more toxic than the old visible ones to many forms of aquatic life, or that these detergents are phosphorous compounds, and that phosphorous is one of our most significant water pollutants.

It's tragic that ecological understanding is not a prerequisite for policy-making

We are at most a few generations away from running out of the fossil fuels on which our economy, including agriculture, now depends. Current thinking holds that our next source of energy will be nuclear fuel, but this raises some very disturbing thoughts. Before the controlled release of atomic energy the total amount of radioactive material under human control consisted of about 10 grams of radium, or 10 curies of radioactivity. Probably a billion times this amount of radioactivity has already been disseminated into the environment, and we are not really yet into the atomic age. A plant of modest size (by present dreams) is being constructed on the shores of Lake Ontario near Oswego, N. Y., which will, by the company's own estimate, release to the atmosphere 130 curies per day. Knowing that exposure to radioactivity shortens life, causes malignancies, and can produce genetic effects that can damage future generations, have we cause for complacency?

Few people apparently realize that our atmosphere is a biological product that has probably remained essentially unchanged in composition for at least 300 million years, right up until the present century. Neglecting contaminants, the atmosphere at sea level consists of about 78 percent nitrogen by volume, 21 percent oxygen, and 0.03 percent carbon dioxide plus minor amounts of other gases I shall not consider here.

Nitrogen is actually a scarce element on earth. Eighteen elements ac-

count for 99.9 percent of the mass of all known terrestrial matter, and nitrogen is not among the 18. What is so much of it doing in the atmosphere? Oxygen is the most abundant of all the chemical elements but it is a highly reactive chemical which, aside from the atmosphere, almost never exists in the uncombined form. What is so much free oxygen doing in the atmosphere? The answers to both questions are biological.

Certain bacteria and algae take nitrogen from the atmosphere and convert it into ammonia which is quite a toxic substance. If the story stopped at this stage we should all be fatally poisoned when we breathe. Two additional kinds of microorganisms in soil and water are responsible for converting the ammonia to nitrate, and green plants absorb the nitrate and use its nitrogen in building plant proteins. Animals, including ourselves, and virtually the entire world of microorganisms obtain the raw materials for building their own proteins directly or indirectly from the proteins of plants. When plants and animals die the decomposer organisms, again primarily microorganisms, break down the proteins, mostly to ammonia, and this little cycle—ammonia to nitrate, nitrate to protein, protein to ammonia—can repeat. If the story stopped at this stage the atmosphere would long ago have run out of nitrogen. Fortunately, there are still additional types of microorganisms that can convert nitrate to molecular nitrogen and so maintain the composition of the atmosphere.

One chemical might poison the nitrogen cycle and cause the extinction of life on earth

So we see that quite a variety of microorganisms involved in the nitrogen cycle are essential for the continuation of life. But what thought does industrialized man give to the welfare of these forms? With reckless abandon he dumps his half million chemical

forms into soil, water, and air not knowing whether or not one of these chemicals or some combination of them might be a deadly poison for one of the steps in the nitrogen cycle and so cause the extinction of life on earth. In fact I have heard serious suggestions from chemically sophisticated but ecologically ignorant persons for deliberately locking two of the steps in the nitrogen cycle. How long can our luck continue? There is oxygen in our atmosphere only because green plants keep putting it there. The plants take in carbon dioxide and give off oxygen, and animals and microorganisms take in oxygen and give off carbon dioxide. So do our factories, our furnaces, and our automobiles. Seventy percent of the free oxygen produced each year comes from planktonic diatoms in the oceans. But what thought does man give to the diatoms when he disposes of his wastes? When he wants a new highway, factory, housing project, or strip mine he is not even solicitous of the green plants

growing on land. The fate of Lake Erie and many lesser bodies of water has shown us that man is indeed capable of blocking the oxygen cycle by sheer carelessness.

If this leaves you complacent, let me mention just a few more of the details. The deciduous forests of the eastern United States appear to produce about 1000 times as much oxygen per unit area as the average cover of the earth's surface. Yet forests seem to be the things that modern man is willing to dispense with first. Tropical rain forests, unlike our deciduous forests, carry on photo-synthesis of oxygen throughout the year and so are probably considerably more productive. But several times each year I read of schemes for industrializing or otherwise "developing" the tropical regions of Latin America, Africa, and Asia.

Tropical soils are typically low in mineral nutrients and such minerals as are present leach from the soil quickly if the vegetation is unable to

STREAMS AND WETLANDS ALSO SUFFER from many kinds of pollution, the net result being a worsening of our environment.

Fish and Wildlife Service Photo



trap them and recycle them. Hence, when a tropical forest is once destroyed, the change may be irreversible. I don't think any educated and responsible person would advocate applying defoliants and herbicides to a tropical forest without first making a careful survey of the nutrient status of the soil and vegetation. But ecological understanding is not a prerequisite for policy-making!

What is now popularly known as "progress" begins to look very much like the path to extinction.

Similarly, in the seas, estuaries tend to be much more productive than either the land adjacent to them or most of the open ocean. They not only produce oxygen but also serve as the nursery grounds for the immature stages of species we harvest for seafood. Yet estuaries are where coastal man is likely to dump his refuse, and they are the places where commercial developers are constantly seeking land fill and dredging operations. They are among the places where it is proposed to locate huge electrical generating plants which would raise the temperature of the water and, in some cases, pollute it with radioisotopes. But who is thinking of the welfare of the green plants, or the organisms involved in the nitrogen cycle, or of still additional types of organisms I could tell you about which are essential for man's survival?

As a corollary of our rapid use of oxygen and our threats to the species that produce it, we are adding carbon dioxide to the atmosphere more rapidly than the oceans can assimilate it. This has serious implications for changing the climates of the earth, but the details of what may happen are still so uncertain and controversial that I shall not go into them here. But one point I do wish to put in the form of a question: would any rational

creature go on changing his environment like this without understanding the possible effects, and at the same time argue that it is necessary to keep the destructive process expanding each year? What is now popularly known as "progress" begins to look very much like the path to extinction.

I have attempted some quantitative calculations on the oxygen cycle in order to see where we stand. For the 48 coterminous United States I took the figures for the production and imports of fossil fuels for the year 1966, corrected the figures for exports and for non-combustible residues, and calculated the amount of oxygen consumed in their combustion. Then I made what I believe is the best possible estimate of the amount of oxygen produced in the 48 states that year through green plant photosynthesis. The estimate of oxygen produced turned out to be not quite 60 percent of the oxygen consumed. I have no doubt that one would reach similar conclusions for other heavily industrialized nations.

The implication is clear; we are absolutely dependent upon atmospheric circulation patterns to bring in oxygen produced outside our borders, probably mostly in the Pacific Ocean. If we should inadvertently kill enough of the diatoms in the Pacific we would start running out of oxygen to breathe. If we should seriously attempt to industrialize all of the nations of the earth after our own pattern, I think we would all perish for lack of oxygen before the transition was nearly complete.

Natural production of oxygen in the U. S. is only 60% of consumption

I've been discussing the atmosphere without unnatural contaminants. I'm sure you all know the true situation—that over 3000 foreign chemicals have been chemically identified in our atmosphere—first, in our cities, particulate matter, soot, fly ash and, perhaps

more importantly, particles of rubber and asbestos, pose a health problem, that carbon monoxide, sulfur dioxide and the various oxides of nitrogen pose many problems. Our intense agricultural efforts to produce enough food themselves raise problems, such as the "weed-killer" 2-4-D in the atmosphere and toxic fluorine discharged from fertilizer factories.

Underlying all of our other problems is the problem of unrestrained population growth. During the first million years or so of man's existence his population doubled perhaps once every fifty thousand years. Sometime last summer human population of the earth passed the 3.5 billion mark, and if present trends continue the population will double every 35 years.

There is no possibility that the earth can continue to support such growth. In fact I doubt that the earth can support on a sustained basis a population as large as the present one. In the last quarter century man's impact on the earth has grown to the point where there is a real possibility that he can destroy its ability to support life.

So, through the eyes of an ecologist, the world environment is in a desperate condition. I am one ecologist waiting with despairing frustration to learn that our leaders appreciate the really important problems, and what they propose to do with them.

What measures will be taken to stop population growth in the United States and to help other nations solve their population problems? What blue ribbon panel will investigate whether our population is already too large so that the growth trend must be reversed? Can anyone doubt that our problems of pollution and urban unrest are related to overcrowding?

Who will reaffirm that we shall never again be the first to use nuclear weapons, tactical or otherwise? How can we get France and China to stop atmospheric testing—and how can we prevent the spread of nuclear capability to unstable governments that may come under the control of fanatics?



CHEMICALS USED TO combat diseases in trees sometimes affect other life forms normally found here.

What steps will be taken to reverse the alarming deterioration of our environment?

Can't we outlaw chemical and biological warfare? In this area the big powerful nation has little margin over a small impoverished neighbor. I'm confident that Cuba can't build a hydrogen bomb but that she can build an anthrax bomb. What leader will commit himself to preventing such developments? Finally, how are the oceans to be used wisely? Industrial giants are just discovering that there is wealth besides seafood to be obtained from the oceans and their bottoms. Will another colonial-type race be allowed to develop for these resources? Who will bring together the biologist, physical scientists, sociologists, economists, and political scientists who, if we are to survive, simply must learn to communicate with each other and to recommend considered policy decisions on such matters? Where do any of the world leaders stand?



*All of Us, I Guess—At Least All of Us Who Grew Up in a Place Like
Bradford County—Have Childhood Memories That Will Stay
With Us Till the Day We Die. I Got Lots of 'Em, and One of My
Favorites Goes Back Forty Years to . . .*

That Memorable Coon Hunt With My Uncle Bob

By Paul A. Matthews

IT'S BEEN forty years come October since Uncle Bob stepped off the Black Diamond. He must've stood six foot three in his stocking feet, but that morning, with a big-rimmed Tennessee mountain hat shoved back on his head and a faded old carpet bag of belongings in his right hand, he looked a whole lot taller. His hair was as straggly and black as Abe Lincoln's, and his bony face was lined like a piece of creased leather. I watched him tilt his head back, saw his nostrils flare like twin tunnels and heard him bellow into the crisp morning atmosphere. "Glory be! You folks

sure had a corn killin' frost here last night!" And then he was walkin' across the platform—all arms and legs, it seemed—and behind him was the sorriest looking critter I've ever seen for a dog.

There ain't much sense in tellin' you what Uncle Bob said to Dad or what Dad said to Uncle Bob. The thing is that here was Uncle Bob, plucked straight from the Tennessee mountains an' stuck in the hills of Pennsylvania just like you'd pull a feather from a White Rock rooster an' stick it in a Rhode Island Red.

We'd hardly scraped the chairs



back from the supper table that night when Uncle Bob dug a bag of Durham from his shirt pocket an' commenced to roll one. He glanced at the clock on the shelf an' then at the window. "It's rainin', boy," he said. "A fall rain on the tail end of a hard frost. Tomorrow the trees will be stripped an' you can see the squirrels in the hickories. But fer tonight, I reckon we'd better take after a coon." With that, he stretched his gaunt frame toward the fireplace, worked out a hot coal and held it to the cigarette. The paper caught and the tobacco dribbled like brown snowflakes. He salvaged a few puffs and threw the remains in the fire.

Come to Life

I never see a dog come to life as fast as that sorry lookin' thing of Uncle Bob's. One minute he was layin' there on the floor without enough sand to stretch two feet for a handout, an' the next minute—just as soon as Uncle Bob started puttin' on his huntin' togs—he was tryin' to bust the door down. An' Ma was havin' kinnipations.

Uncle Bob was a smart cuss. Instead of turnin' old Gyp loose in the cornfield like I figured he'd do, he kept him on a rope while we walked up along one side of the field and then across the end that bordered the woods. I was holdin' the rope real tight like Uncle Bob had said, when all of a sudden Gyp let out a howl an' took off like a turpentine tomat.

Man how we traveled! Me on my belly plowin' a furrow crosswise of the corn rows, and old Gyp eatin' up the ground like he was runnin' the Kentucky Derby. I started to holler, but got a face full of mud an' then Uncle Bob was thrashin' through the corn, bellowin' like a mossy horn steer until the rope got so tangled old Gyp had to stop an' wait. How that dog was frothin' at the mouth! Then Uncle Bob let 'im loose and the valley fairly rang.

"Ain't that the purtiest music you ever heerd, boy!" In the lantern light, I could see Uncle Bob grinnin'—the kind of look a man has when everything's right with the world.

Forty years ago there warn't the 'coon in Pennsylvania there is now. Matter of fact, I'd never even seen one. So when Uncle Bob let out a yell loud enough to have made him the pride of the Confederacy, I whooped up one too an' set out on a dead run in the general direction of old Gyp.

Man how that hound could sing! Just one steady rollin' chorus of hound dog drums an' bugles an' bagpipes all rolled into one and bounced back an' forth between the mountains until the echoes met each other comin' the other way. It was the kind of music that raises a man right off the ground an' flings 'im to the wind—makes a man feel ten feet tall, 'an puts coil springs in his feet. Oh, I mean to tell you brother, you ain't lived till you've been coon huntin' an' heard a hound bawl like old Gyp an' felt the wind rush past your ears an' the rain streamin' down your face!

That was about the time I see the lantern go flyin' through the air an' heard Uncle Bob let out kind of a sticky grunt. An' before I could gather enough sense to quit runnin', I slammed into the barbed wire fence right alongside of him. There ain't nothin' that'll wake a man up sadder than runnin' into a fence on a pitch black night. It'll waken you right to the roots of your toenails.

Away We Went

But if you think that stopped Uncle Bob an' me, you're wrong. Uncle Bob grabbed up the lantern an' away we went, leggin' it toward Mallory Run like our lives depended on it.

Durin' the fall of the year when the rains are on, Mallory Run is a rip-snortin' crick of frothin' water wedged deep in a gorge 'tween two mountains. It comes pilin' out of the hills with a freight train roar—a roily,

twistin' mass of sticks an' water, maybe not too deep, but swift enough to take the legs out from under a growed man. So while Uncle Bob floundered an' splashed an' got rolled a rod or two, I hitched across on a fallen hemlock just like the coon an' old Gyp had done before me. What's good enough for them, I thought, is sure good enough for me.

By the time we got the lantern blowed dry an' found out that Uncle Bob's matches were soaked, we could hear old Gyp bawlin' from a long ways off. Over the ridge, it sounded.

"Glory be! He's got 'im treed, boy—he sartinly does!"

An' away we went, clawin' an' diggin' an' scrabblin' our way up a wooded slope that was almost straight up an' down. For just about every foot I gained, I got swatted in the face with a laurel branch or banged head on into a tree. I never see a night that was so black. Or wet.

But it was worth it. 'Cause when we got to the top of the ridge, we could hear Gyp half a mile away settin' up the craziest bawlin' racket I'd ever heard. He was on the far side of a pasture field, an' in my mind I could visualize a sprawlin' black locust tree.

Ever Climb a Locust?

Mister, did you ever try to climb a black locust? In the forty years since that night, I've clumb trees all over the world. I've clumb for coconuts at a place called Tulagi, an' I've clumb some of the big firs in Oregon. But never, Mister, in forty years since, never have I clumb anything like that black locust!

Don't never let anybody tell you that a tree ain't a livin' critter with feelins' an' thoughts like everything else. A black locust has got a personality somewheres 'tween a porkypine an' a snappin' turtle. It's a rough-barked tree, slippery'n a greased pig, an' every so often it's got a short, heavy thorn that'll lace you stouter'n a yellowjacket.



SO I BROUGHT back the club an' I whopped at 'im with every ounce of strength I wasn't usin' to hang on with. 'Course, it was a clean miss an' I lost my balance. . . .

But I clumb it! With Uncle Bob eggin' me on every foot of the way. "He's up there, boy! 'Bout two limbs over your head. He looks like a big, black hump from down here!"

An' sure enough, up over my head way out on the limb, I could see a dark form that looked bigger an' meaner than Dad did the time I burnt the haystack. I edged on up the tree, an' somewhere found a dead sprag I busted off for a club. An' then I eased my way out on the limb, hangin' on so tight a team of mules couldn't pull me loose. I could see that coon out there, all hunched up an' skulkin' backwards an' gettin' bigger by the minute. Somehow he didn't look just like I figured a coon ought to look, but it was so dark that about all I could see was a big blob.

"He looks awful big," I shouted down.

"Atta boy, lad!" Uncle Bob shouts back. "Get right out there an' whack 'im a good 'un!"

I edged out another foot an the coon kinda puffed up an' hissed at me. "Can coons hiss?" I shouted down. "Whop 'im, boy! Send 'im down a kitin' fer old Gyp!"

Whopped At 'Im Good

So I brought back the club an' I whopped at 'im with every ounce of strength I wasn't usin' to hang on with. 'Course it was a clean miss an' I lost my balance, an' for a few seconds I hung there by one hand, my feet kickin' an' the goldarndest ruckus you ever heard goin' on down below. Somehow—I don't know how—that critter was on the ground, the dog was squallin' an' *kiyiin'*, an' Uncle Bob was screechin' like a maniac an' the coon was snarlin' an' spittin' an' growlin'. It wasn't no mess to drop into, an' I hung on for dear life.

Purty soon it go to me what Uncle Bob was screechin' about. "Bobcat, boy! The biggest bobcat I ever seed! Must be a yard long!" He was wavin' his arms an' carryin' on somethin' fierce by the time I got back on the ground, an' down in the valley you could hear old Gyp singin' out on the trail again.

"Come on, boy," Uncle Bob hollered as he took off on a dead run. "Old Gyp'll tree 'im again, an' this time it'll be different!"

It was different, all right. An' for forty years I've been glad we didn't get to the foot of the hill no sooner than we did. Even then it was bad enough.

Still Remember

I can still remember runnin' down across that pasture field—listenin' to old Gyp bawling in the distance, an' hearin' Uncle Bob shout an' holler in the darkness ahead of me. An' then as we got closer, I could see rectangles of lamplight where doors were openin', an' I could hear other voices shoutin' into the night. I could hear cows bawlin' an' chickens squawkin' an' horses kickin' at the sides of their

stalls. An' above all this din an' clamor was old Gyp's voice a' barkin' treed just like he'd gone crazy mad an' could almost but not quite get at the coon or bobcat or whatever it was.

We met Dad right at the barn door—or what was left of it after Gyp had tore it loose from the upper hinge. His face was blackern' the night around it, an' his eyebrows were humped together like two caterpillars in a head-on collision.

"What in the livin' Sam Hill's goin' on?" he wanted to know.

"Bobcat, Charlie!" Biggest bobcat I ever seed! Uncle Bob could hardly stand still. His lips quivered an' his hands trembled like a man with palsy.

Dad looked at him, an' then at the barn door. Inside, old Gyp was puttin' up a racket that'd make any coon hunter with a lick of sense reevaluate the situation. "Come on," Dad said, an' we pushed inside.

There wasn't much to be said for the rest of the evenin'—or for several days afterward, as a matter of fact. Ma's pet tomcat—an' he was a yard long—set up there on a beam glarin' down at old Gyp, his tail switchin' back an' forth an' his ears laid back along his head. We all took one look, then dragged Gyp outa' the barn an' nailed the door back into place.

Forty Years

Like I said, it's been forty years since that night, forty years of followin' a dozen different hounds an' hundreds of coon through a thousand nights as black as pitch. Old Uncle Bob has been gone for years—an' Dad an' Gyp an' the old tomcat, too. Only the tree is left—the biggest black locust in the whole of Bradford County. An' once in awhile I sit an' look at it—sprawled out there against the skyline big an' black an' twisted—an' in the back of my mind I hear old Gyp bawlin' an' see Uncle Bob gallopin' 'cross the fields full tilt.

"Come on, boy," he hollers. "This 'un ain't no tabby cat!"

**COMMONWEALTH OF PENNSYLVANIA
HUNTING LICENSE APPLICATION**

(Check Type(s) Desired)

Agent Write
in FeesResident Senior (17 years and older) \$5.20 ☐Resident Junior (12-16 years of age) \$3.20 ☐Non-Resident \$25.35 ☐ Alien Non-Resident \$25.35 ☐Archery \$ 2.20 ☐Non-Resident 3-Day Reg. Shooting Grounds \$3.15 ☐

Resident Disabled War Veteran Claim No. Free

Resident Serviceman on Leave-Serial No. Free

Postage

Total

(Print Plainly)

NAME _____
(First) (Middle) (Last) (Occupation)LEGAL RESIDENCE ST. OR R.F.D. _____
County)CITY _____ STATE _____
(Zip Code)COLOR OF COLOR OF
HAIR _____ EYES _____ WEIGHT _____ LBS. HEIGHT _____' _____"DATE OF BIRTH _____
(Day) (Month) (Year)PLACE OF BIRTH _____
(Post Office) (State) (Nation)

NATURALIZATION PAPERS NO. _____ IF NOT NATIVE BORN

I certify that above information is true and that my hunting privileges have not been revoked for this license year. Under 16 years of age (Resident or Non-Resident) have presented Hunter Safety Certificate _____ or prior hunting license _____.

(Date of Application)

(Signature of Applicant)

I hereby certify that applicant has properly identified himself/herself and in my opinion is entitled to license(s) listed above.

(License No.)

(Archery License No.)

(Signature of Issuing Agent)

AGENTS NOT RESPONSIBLE FOR LICENSES LOST BY MAILING.

REMITTANCE MUST BE BY CERTIFIED CHECK OR MONEY ORDER. (U. S. CURRENCY)

MAIL APPLICATION, AND CORRECT AMOUNT OF FEE (INCLUDE 12 CENTS POSTAGE) TO THE DEPARTMENT OF REVENUE, MISCELLANEOUS LICENSE DIVISION, HARRISBURG, PA. 17127, ANY PENNSYLVANIA COUNTY TREASURER, OR APPROVED AGENT. (DO NOT SEND STAMPS) HUNTERS UNDER 16 YEARS OF AGE MUST PRESENT PROOF OF HUNTER SAFETY TRAINING OR PRIOR HUNTING LICENSE. (PREFERABLY A PHOTOSTATIC COPY)



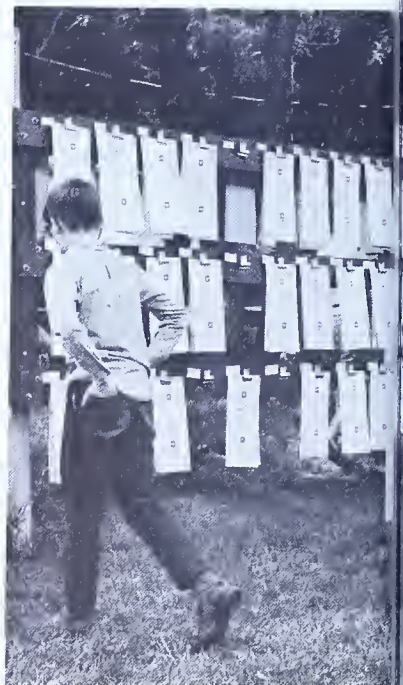
**WALLY HART, rang
instructions.**



**BOB HART, below, studies targets through spotting
scope before relay begins firing. Right, the "Wailing
Wall," where targets are displayed after measuring.**

Ragged-

MOST DEER HUNTERS that gives Stetson-size shooters are usually happy. But to dedicated benchrest shot class. Their goal is sin hole being the same diamet done this yet, but some co are common, and the day t Council Cup range near V group at 100 yards that m two widest shots. And al groups would have hit a Not quite. But they're wor





prepares to give firing

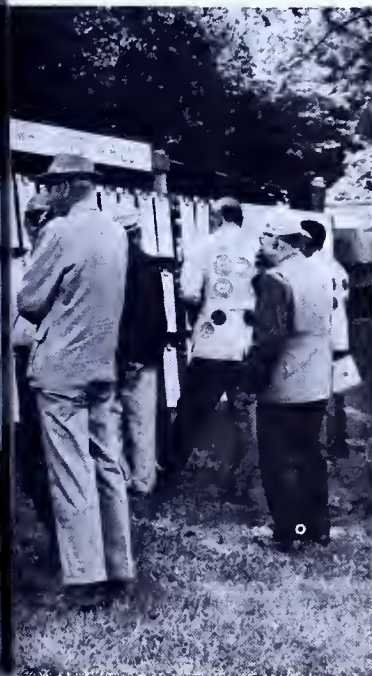


Riflemen

tag their game with a rifle
t 100 yards. Even varmint
ball groups at that distance.
uch shooting is in the sling-
ullets in the same hole, that
le caliber used. Nobody has
y close. Aspirin-size groups
s were taken at Bob Hart's
n, one man made a 5-shot
04" center to center of the
ullets in several 200-yard
perfect accuracy, you say?
-Bob Bell



FIELD & STREAM'S gun editor, Warren Page, above, reloads his cases between matches, a time which is often given over to gun talk, as below.





FIELD NOTES



Deadeye

YORK COUNTY—Paul Baughman told me that he and a friend were out with an electronic fox call recently. It was the first time his friend had hunted with such a call, and he was advised that the shooting was fast and a lot of times close to the machine. The record was started, everyone was ready and soon a fox was coming in at full steam. One shot and then silence. Paul's friend had shot and missed the fox—but shot off the cord to the speaker. — District Game Protector R. L. Yeakel, Red Lion.



Next Time Try "Monitor"

BLAIR COUNTY—It has been interesting to hear the different positive cures for rabbit damage to home gardens. One gardener thought he had a sure thing. He placed a small transistor radio in his garden and turned it to a rock and roll station (he said rabbits like classical music). The radio worked fine until the station went off the air, then the rabbits moved in and chewed up the leather case and part of the radio.—District Game Protector J. A. Lukas, Hollidaysburg.

Wanted the High View

ERIE COUNTY — Trooper Charles Stewart of the Pennsylvania State Police recently gave me the details concerning a woodchuck hunter with a new twist. It seems that he decided to sit atop the roof of his car and allow his wife to drive down the road, giving him a good vantage point to spot chucks. While doing so, the missus got a little heavy on the brake and hubby came crashing down across the hood and on to the ground. He was badly bruised and shaken up and had to have medical attention. His actions were, of course, illegal as well as dangerous, and Trooper Stewart brought charges under the vehicle code. There is little wonder why farmers are tempted to post their land against hunting after observing such irresponsible action.—District Game Protector R. L. Sutherland, Erie.

Rare Birds

CUMBERLAND COUNTY—Again in June we had more than our share of rare birds visiting Cumberland County. During the forepart of the month I observed a mature bald eagle at Sterrett's Gap. This sighting was verified by DGP Jim Filkosky and George Wolf, a service station proprietor there. About a week later Mr. Wolf saw another eagle in the same area. During the last of the month I was called by Ken Bowers who lives just west of Carlisle to identify a large bird which he found dead on his property and which he had observed at close range on several previous occasions. Upon examination of this bird it turned out to be a sandhill crane, an extremely rare visitor. — District Game Protector E. F. Utech, Carlisle.

Gotta Draw the Line Somewhere

BERKS COUNTY—It seems a Game Protector must also be a part-time veterinarian and zoo keeper. So far this year my collection consists of a small red fox, a pheasant chick rescued from an Interstate highway, one crippled blackbird, a stray cat, seven baby rabbits which were released shortly after their eyes opened, a small fawn deer, and one jealous Brittany spaniel. But the pay-off came the other day when the three-year-old neighbor boy came to the house with a crippled housefly that he intended to put in my iced tea. This I refused, even though he promised it wouldn't hurt me. — District Game Protector J. K. Weaver, Kutztown.



Needed: Cat Repellent

ARMSTRONG COUNTY—Wildlife sometimes gets blamed for things it doesn't do. After advising a lady living near Kittanning on the use of repellents to keep small game out of her garden, she reported to me that they did not work and that the rabbits or something kept coming in and digging up her garden. The use of a rabbit trap proved shortly that the culprits were her own cats, who found the garden a good place to bury—things? —District Game Protector D. C. Madl, Kittanning.



Bigamist?

BEDFORD COUNTY — Some friends of mine were disturbed recently when their neighbor killed a rattlesnake in his front yard. My friend's wife was told that these snakes always travel in pairs and this had her really worried. I told her that this is an old wives' tale and shouldn't be believed. Wouldn't you know it, they killed another one two days later in the backyard. Then to make it even worse, they killed another one just a couple days later down the road about 100 yards. — District Game Protector C. J. Williams, Bedford.

Not Afraid of Him or His Car!

SNYDER COUNTY — A grouse crossed the road up ahead of the car. Thinking maybe it was a hen, I stopped to see if there were any young ones. As soon as the car came to a halt, out of the brush boiled one very disturbed grouse with tail feathers fanned, ruff on the neck standing out, and hissing like an angry house cat. She charged to within several inches of the car three different times, and she wouldn't settle down until I left the area. Before I departed, I spotted several chicks back under the bushes. It is now very easy to see why the female grouse is known as one of the most courageous mothers of the wild. —District Game Protector J. P. Shook, McClure.



Next Time—Hang On!

NORTHUMBERLAND COUNTY—“Whitey” Adams of Elysburg had this interesting tale to tell. It seems a friend of his from near Reading (Whitey does not want to embarrass him by telling his name) went spring gobbler hunting in May. He was fortunate to call in a nice gobbler which he shot. He unloaded his gun and proceeded to head for the car when he became conscious of a movement in the bird. He looked down and there was Mr. Gobbler looking right up at him. Our friend proceeded to lay the gobbler down and reach for his knife. He made the mistake of letting go of the turkey. Away it ran, Whitey’s friend running after it, but so far as we can find out, Mr. Gobbler is still running. — District Game Protector C. E. Laubach, Elysburg.

Better Late Than Never

ERIE AND CRAWFORD COUNTIES—Charles Gillette of Townville turned his windrowed hay over on a Friday and came back in less than 48 hours to bale it. While baling the hay, they found that a ringneck hen had made a nest in the windrow and had already laid three eggs in it. She certainly was trying to make up for her late start.—Land Manager J. C. Hyde, Townville.

Why Not? The Show Was Over

LYCOMING COUNTY—On June 26 I was told that a deer had been injured by a train and swam across Pine Creek. Arriving on the other side, she found herself unable to climb the almost straight bank. When I arrived I saw the motionless deer lying on a large rock on the opposite bank. I put my hip boots on with the intention of walking across the creek and bringing the deer back. After a few quick steps I was made aware of the depth of the water. Now that my pants were already wet and I had come this far, the worst that could happen would be a wet shirt, I thought. After 15 or 20 minutes of bouncing on the bottom, trying to get to a place where the water wasn’t quite so far over my head, I turned and headed back from whence I had come, with the motionless deer still in sight. Returning to the car, I removed my shirt, shoes, wallet and hip boots and started back across with a more practical freestyle stroke. I swam the entire width of the creek and as I approached the large rock where the motionless deer lay, she calmly rose and walked up the side of the mountain.—District Game Protector D. A. Bernhardt, Jersey Shore.

Good Deed

LUZERNE COUNTY—Julius Roby of Nesquehoning, who works for the Simasek Detective Agency, was on patrol near his home when he noticed a large doe nervously pacing along the abandoned railroad bed. He glanced to the left and saw a fawn standing in the woods, but the doe kept looking to his right down over the bank. Mr. Roby looked and saw another fawn tangled in some discarded chicken wire. He took his wire cutters and cut the wire, freeing the fawn, and then watched the mother and two fawns bound away. Many thanks for this act of kindness.—District Game Protector R. W. Nolf, Conyngham.

How Many Stripes?

WASHINGTON COUNTY—Report on a new kind of animal lying along Route 18 brought a very unusual case. It was found later that the highway crew, while painting lines, had painted over a raccoon and forgot to remove it from the road. — District Game Protector F. D. King, Canonsburg.

Breakfast of Champions— Obviously!

McKEAN COUNTY — Everybody has heard of dogs chasing deer but how about a cat chasing deer? A fellow was telling me that his house cat will chase the deer out of his yard and garden. Wonder what he feeds him for breakfast? — District Game Protector G. W. Waldman, Lewis Run.

FBI Training

CUMBERLAND COUNTY — I recently attended several sessions on firearms instruction conducted by the Federal Bureau of Investigation. The classroom and practice shooting conducted by Special Agent Bob Jenkins certainly were well worth the time of the law enforcement officers who attended the week-long course. Shotgun training and the use of other law enforcement tools also were demonstrated. The night firing was something new to most of us, and we now know that darkness can be a great advantage to a well-trained officer. I think if more law enforcement agencies took advantage of the FBI course, citizens would feel much more secure. The officer himself would feel more secure, knowing that if the crucial moment ever comes that he holds a human life in his hands, he will be able to handle the situation. — District Game Protector J. P. Filkosky, Mechanicsburg.

A Touch of Genius

WAYNE COUNTY—A pair of beaver were flooding the road in the vicinity of Equinunk and had to be removed. These beaver were very tame and did not resent man's appearance, even in broad daylight, when building their dam. I set a live trap in the dam area and the next morning the trap was sprung but no beaver was inside. This happened for three consecutive nights, and I thought someone might be pulling my leg. The following night I ripped out the dam and reset the trap, then waited. No beaver showed. I left for about 15 minutes then returned and found the trap sprung. Determined, I then reset



the trap and decided to stay all night if warranted. At about 9:30 p.m., I heard the trap rattling but it did not spring. Sneaking up along the bank, I found the beaver gripping the trap with his front feet and teeth along the frame of the trap near the hold-down dog and shaking the trap violently. He succeeded in springing the trap, then went about repairing the remainder of the dam while one stupefied Game Protector watched in amazement. Anyone with a good suggestion? — District Game Protector F. G. Weigelt, Galilee.

Pecking Order

FRANKLIN COUNTY—On a recent fishing trip I made available to the wildlife in the area the remains of the fish that we had prepared for dinner. First the grackles came to dine, then a crow, then the ravens disturbed the crows from their dining, then a gull interrupted the ravens. Last but not to be denied, a bald eagle took command. All the losers made quite a noisy audience for the eagle from nearby trees. The ravens were the loudest in their objections.—CIA R. D. Parlamen, Franklin.

Big Ones

LYCOMING COUNTY—While on patrol one day during June, I spotted nine bucks in velvet. By the looks of several of them, there will be some nice bucks sporting "bragging size racks" come hunting season.—District Game Protector R. G. Clouser, Williamsport.



Greedy Rattler

MIFFLIN COUNTY—Ross Woomer of Milroy reported that six small tame rabbits were consumed by a large black-phase rattler. The rattler entered the pen, ate the rabbits, and then couldn't leave by the same hole. When Ross opened the door to water his rabbits, he was greeted by his uninvited guest. A 22-caliber bullet evened the account.—District Game Protector J. D. Moyle, McVeytown.

Learned His Lesson

WASHINGTON COUNTY—While on patrol in Fallowfield Township in late June, Deputy Anderson and I stopped a young man driving an old convertible on one of the many dirt roads in that township. We identified ourselves and stated we were checking for loaded firearms and illegal game. The young man got out of his vehicle, which had the top down, and I proceeded to search it. He had a conglomeration of items in the back, including two spare tires mounted on wheels. I then asked him to open his trunk. He agreed to do so, but stated it had a broken lock. So he put up the top and took out the tires and various other items, as well as the back seat. He then crawled through the opening, fiddled around with the lock for a minute or so before opening it, and then made his exit through the trunk. Upon looking in the trunk, we found it to be clean. All of this took approximately 10 minutes. I then asked him if he planned on doing any hunting this year. He replied, "Yes, sir—but you can be sure I won't be using this car when I do!"—District Game Protector J. M. Kazakavage, East Washington.

Turnabout

LANCASTER COUNTY—On June 1, I had the opportunity to turn in a squirrel complaint to the power company as one shorted the hot line into my home and cut off all the electrical power. When I called and told them I had a squirrel on my light pole they told me to call the Game Protector. I told them I was the Game Protector, and the man asked me how it felt to have to have problems with the squirrels myself. I said that I thought the animal was trying to convert me to the Amish ways but I found it rather hard to adjust to. They then sent a repairman to fix the trouble.—District Game Protector H. D. Wetzel, Lancaster.



CONSERVATION NEWS



Why the Reduction in 1969 Antlerless Deer Licenses?

STABILIZATION in the size of the deer herd in most counties in Pennsylvania at more realistic levels has necessitated a reduction in the total number of antlerless deer licenses authorized for 1969 by the Game Commission.

The goal of the Game Commission's deer management program is to produce and maintain a desirable balance between the size of the whitetail herd and the ability of the range to support deer without undue conflict with other uses of the land.

During the past few years the overall size of the deer herd had been growing, while the condition of the range had been deteriorating. The number of antlerless deer licenses authorized was the chief tool used to brake a potentially runaway condition.

Last year 482,550 antlerless licenses were allocated, the all-time record. This year 379,000 were authorized.

When two days of antlerless hunting failed to produce an adequate harvest of whitetails, the season was extended by one day and an additional 13,681 deer were tagged. As a result, a potentially explosive situation was averted.

Although there are still some counties where the deer population is at or above the comfortable carrying capacity of the range, in most areas the problem is finally under control.

Normally, the size of the state's basic breeding herd increases about 35 percent per year with the addition of the fawn crop. Hunters can only



Photo by Leonard Lee Rue, III

expect to harvest about 12 to 15 percent of the herd through bucks-only seasons. To keep the herd at a stable size, it is necessary to remove another 20 to 23 percent of the antlerless whitetails.

When less than 35 percent of the herd is removed annually, as happened for a number of consecutive years, the overall population increases. When numbers become too large for the capacity of the range, the population must be brought back to desirable levels by removing more than 35 percent of the herd.

This has happened during the past few years, and now sportsmen should

look forward to smaller deer harvests in the near future, and a corresponding improvement in range conditions.

Counties such as Schuylkill and Tioga have more whitetails than the condition of the range warrants, and antlerless licenses allocated have been increased considerably.

In counties such as Centre, Clearfield, Elk, McKean and Potter the herd is still relatively large for the condition of the range, and the allocation of antlerless licenses is correspondingly high.

Where the herd is in line with other land uses or has dropped in size, license allocations are at lower than previous levels.

Then there are perhaps a half dozen counties where licenses have taken a significant drop—as much as 85 percent from 1968 levels. Why?

Take Cameron, Clinton and Pike Counties as examples. The deer population in these counties remained above the carrying capacity of the range for many years. Since there was not enough feed to adequately nourish these deer, the antler development of the bucks and the fawn production ranked as the poorest of any in the

state of Pennsylvania.

However, even with the poor reproductive capacity of the does, the overly-large basic breeding population supplied enough fawns to maintain an overabundance of deer. Because of the threat of mass winter starvation and total destruction of natural food supplies, it was necessary to substantially reduce the number of deer in these areas as quickly as possible. Therefore the number of antlerless deer licenses in these counties was significantly increased in recent years.

In 1968 the desired harvest was finally realized in these counties, and it is believed that the herd is now more in line with what the range can comfortably carry. Because of the comparatively poor physical condition of the breeding stock, the reproductive rate of the does in these counties is only about half of what could be expected in better counties.

As a result, the overall deer population in Cameron, Clinton and Pike Counties lacks the physical ability to spring back to replenish itself at the same rate as a healthy herd. Consequently, fewer 1969 antlerless licenses needed to be issued in these counties.

State to Receive \$726,921 in Pittman-Robertson Funds

Pennsylvania will receive an initial allotment of \$726,921.47 in Pittman-Robertson Wildlife Restoration and Research Funds for the 1969-70 fiscal year, according to E. G. Musser, P-R coordinator for the Pennsylvania Game Commission. The preliminary apportionment figure is an all-time record, \$53,269.95 more than last year's allotment. An additional apportionment of P-R funds will be made to the state later this year. The federal funds will be used for the Game Commission's wildlife habitat development and research programs.

Nationwide, \$18,000,000 will be distributed, \$600,000 more than was available initially last year. Each state's apportionment is based on the number of paid hunting license holders and land area. Federal aid programs for wildlife restoration are administered by the U. S. Department of Interior. Funds come from excise taxes levied on sporting arms and ammunition. Under the program, states spend their own funds on approved projects and are then reimbursed up to 75 percent of the cost.

Goose Blind Applications Accepted September 1

APPPLICATIONS for hunting from goose blinds at the Pymatuning Waterfowl Area in Crawford County will be accepted from September 1 through October 1.

Ray M. Sickles, waterfowl management agent, said 40 blinds, each accommodating four persons, will be available for the 1969 season.

There will be four shooting days each week of the season, Monday, Wednesday, Friday and Saturday. Forty blind holders will be selected for each shooting day of the season. Since each blind holder is allowed three guests, 160 hunters can utilize the area each shooting day.

The following regulations apply:

Reservation requests must be made on official application forms and must be submitted to the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131.

Only one application may be submitted per person.

The applicant's 1969 hunting license number, including the letter, must be listed on the application.

Applications must be postmarked September 1 through October 1; any postmarked earlier or later will be rejected.

A drawing will be held in early October to determine the successful applicants. Only successful applicants will be notified.

Registrations are not transferable. The successful applicant whose name

appears on the reservation must present the reservation in person at the Pymatuning Waterfowl Area headquarters (registration building) located on Route 285 between Hartstown and Lincsville about four miles north of Hartstown.

A reservation will entitle the applicant to bring not more than three guests with him. Guests will be present and register.

Hunters shall be limited to one visit per hunter per season on the Goose Area.

Hunters should arrive at least one hour before shooting time to allow for the issuance of permits; 1969 hunting licenses must be presented at the check station.

All reservations for any one day will be valid only up to one-half hour before shooting time on the specified day.

Shooting hours for the Pymatuning goose blinds are from one-half hour before sunrise until noon prevailing time.

Season dates and bag limits will be established later.

Applications for hunting from the Pymatuning goose blinds are available from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120; or any of the six Field Division Offices of the Pennsylvania Game Commission; or from any Game Protector; or the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131.

Purchase of 2513 Acres Approved

The Pennsylvania Game Commission has approved purchase of 2513 acres of land to be used for public hunting. The tracts, located in six counties, will cost \$103,950. Monies for the purchases will come from the Game Fund. Included in the transactions is one for 1750 acres in Brushvalley, Center and West Wheatfield Townships in Indiana County. The tract will become a new State Game Lands. The remaining acreage will be purchased in Bedford, Berks, Forest, Greene and Perry Counties.

Lower Bear Population Led to Shorter Season

Evidence of a sizable decrease in the number of bears in the northcentral part of the state led to the Game Commission's decision to limit the 1969 bruin season to two days.

The two-day season, November 28 and 29, will be the shortest on record, except for a closed season in 1934.

According to field reports, the bear supply in the bruin's normal range throughout the state is adequate except for the northcentral region.

The northcentral area, which produces about 60 percent of the state's bear harvest, last year had a 46 percent lower harvest than the 10-year average for the section.

Another index to population levels is loss of bruins to causes other than hunting (such as to vehicles, for crop damage, etc.). Last year it was 44 percent lower than the 4-year average for the area. Another indicator is illegal cub killings; there were 84 in 1967 and only three in 1968.

The decrease was first noticed in the late summer and fall of 1968. Natural food for bruins was in very short supply last year, and this normally would have produced a signif-

icant increase in the number of damage complaints and reports of nuisance bears at state parks and municipal garbage dumps. This did not happen.

This spring Game Commission field officers and employees reported seeing comparatively few bears or signs of bruins. Damage to beehives, corncribs, etc., normally would be occurring at a much higher rate than has been the case in 1969.

In 1966 an effort was made to reduce the bear supply through liberalizations in regulations, and hunters reported harvesting 605 bruins that year. Normally, a much lower harvest should have occurred in 1967, but one of the most bountiful mast crops in history that year kept bruins in circulation and hunters bagged another 568 bruins.

The two consecutive years of high harvest cut sharply into the overall supply and resulted in a two-day 1969 season.

Since productivity in bears is much lower than most species, similar or more restrictive seasons for bruins may follow the 1969 hunting year.

Hunters From 38 States Harvest Deer in Pennsylvania

Sportsmen from other states continue to harvest Pennsylvania deer at a record pace. Last year 11,279 nonresidents bagged whitetails in the Commonwealth, according to a Pennsylvania Game Commission survey. The total includes 487 archers who tagged deer in Pennsylvania during the 1968 hunting seasons. The successful nonresident deer hunters represented 38 states and two foreign countries, Canada and West Africa. Included were such far-away states as Alaska, Hawaii, Washington and California. As expected, more hunters were successful from Ohio than any other state; 4436 tagged Pennsylvania whitetails last year. There were 2137 from New York who bagged deer in the Keystone State; 2096 from New Jersey and 1079 from Maryland.

Sees It All

The Arctic tern covers more than 22,000 miles on its annual round trip from the Arctic to the Antarctic.

39 Hunters Win Triple Trophy Awards

THE Pennsylvania Game Commission's coveted Triple Trophy Award was earned by 39 hunters during the 1968-69 seasons, Information and Education Chief Roy W. Trexler announced.

The Triple Trophy Award is available to hunters who take a wild turkey, an antlered white-tailed deer and a black bear during the same hunting license year.

This is the third year for the award. Altogether, 216 Triple Trophy Awards have been presented.

Of the 39 winners during the past year, nine completed the requirements for all three species during the spring gobbler season. The low number of black bears taken in the state last fall, 218, undoubtedly had a bearing on the reduced number of award winners.

Two hunters who won Triple Trophies during the first two years of the program qualified for their second such awards during the past year. They were Richard D. Nelson of Coudersport, RD 2, and Thomas E. Scherich of Prosperity, RD 1. Only two other hunters have won the award twice.

The past year also saw the first woman win the award. She was Mrs. Marilyn J. Corbett of Carlisle, RD 1.

All of the 1968-69 winners were Pennsylvania residents. Previously, two nonresidents had qualified for the award.

A shoulder patch and a certificate signed by the executive director of the Pennsylvania Game Commission are presented to each Triple Trophy Award winner.

The following are the winners of the Triple Trophy Award for the 1968-69 hunting seasons:

Albertson, Robert C.—350 E. Third Street, Bloomsburg.

Beaver, Rolley R.—513 High Street, West Milton.

Beers, William D., Jr.—Box 227, Coalport.

Brown, Donald W.—RD 1, Ligonier.

Brown, Milton A.—RD 1, Canton.

Chambers, Cordes W., Jr.—Pancake Street, Clarence.

Corbett, Marilyn J.—RD 1, Carlisle.

Cyrus, Gary R.—Box 85, Bessemer.

Frenz, John W.—904 Songbird Road, Bradford.

Girty, James P.—110 W. Condot Road, St. Marys.

Goodling, William C.—Box 33, Hyner.

Heichel, Robert G.—Frenchville.

Heilner, Gerald D.—RD 2, Elizabethtown.

Herr, Emory H.—RD 1, Ronks.

Heverly, Floyd R., Jr.—Box 129, Blanchard.

Hoffman, Dallis L.—P. O. Box 16, Halifax.

Hoover, Ralph A.—RD 1, Clearfield.

Jeffries, Jay E.—Blairs Mills.

Kosterman, Wilhelm, Jr.—4316 Shannon Road, Erie.

Krasinski, Raymond—211 Center Street, Ridgway.

Krysik, John—RD 1, Muncy.

Lefever, Gene F.—Star Route, Renovo.

McCauley, Earl G.—RD 1, Box 78, East Freedom.

Miller, Walter M., Jr.—RD 5, Box 209A, Sinking Spring.

Nelson, Richard D.—RD 2, Coudersport.

Newman, Lowell Curtis—324 Washington Trail, Deer Lick.

Nihart, James H.—Box 48, Hyner.

Queer, Raymond E.—RD 3, Box 314, Latrobe.

Richart, Delbert E., Sr.—RD 1, Millmont.

Schatz, Regis, Jr.—Rathburn, St. Marys.

Scherich, Thomas E.—RD 1, Prosperity.

Scrimshaw, Wayne P.—Box 86, Sinnamahoning.

Smith, Dennis H.—17 Howard Street, Moutonsville.

Stahl, Charles J.—618 W. Second Avenue, Derry.

Swanson, Franklin R.—RD 2, Polk.

White, Raymond J.—RD 2, Kittanning.

Woodard, James S., Reverend—RD 1, Box 321, Rochester.

Young, Marvin E.—Vicksburg.

Zimmett, Alvin—487 N. Michael Street, St. Marys.

That's How It Goes

Wild rice, once the main staple of nomadic Indians, is now the world's most expensive cereal.

Days of Yore



BEAR AND DEER TAKEN in Whippoorwill Hollow, Cameron County, in 1922. Hunters were Andy Howe; Sam Reed, now-retired PGC Land Manager; Lee Skillman; Jesse Skillman; Paul Lyons; and Charles McCarthy.

PENNSYLVANIA GAME COMMISSION SUMMARY

1969 SEASONS AND BAG LIMITS DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK

Species	First Day	Open Seasons	Last Day	Daily Bag Limits	Maximum Possession Limits
Doves	Sept. 1		Nov. 8	12	24
† Rails (Sora and Virginia)	Sept. 1		Nov. 8	25*	25*
Gallinules	Sept. 1		Nov. 8	15	30
Wilson's or Jacksnipe	Oct. 1		Nov. 19	8	16
Woodcock	Oct. 18		Dec. 20	5	10

† NO OPEN SEASON—King and Clapper Rails.

* Singly or in the aggregate of species.

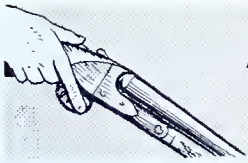
SHOOTING HOURS

Doves—12 noon, prevailing time, to Sunset.

Rails, Gallinules, Snipe, Woodcock—One-half hour before Sunrise to Sunset (Except on November 1 when the opening hour will be 9 a.m., EST).

MISCELLANEOUS REGULATIONS

FEDERAL MIGRATORY BIRD HUNTING STAMP ("DUCK" STAMP) **NOT REQUIRED TO HUNT** DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK. BOW AND ARROW, SHOTGUN PLUGGED TO NO MORE THAN 3-SHELL CAPACITY ARE LEGAL; RIFLES AND PISTOLS ARE PROHIBITED. NO HUNTING ON SUNDAY. ONE FULLY FEATHERED WING OR THE HEAD MUST REMAIN ATTACHED TO EACH MIGRATORY BIRD (EXCEPT DOVES) WHILE BEING TRANSPORTED.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



THE PENNSYLVANIA JAYCEES ARE ONE of many hard-working organizations that are presenting hunter safety training throughout the state. Here, DGP Jim Williams assists the Bedford Jaycees during their awards night program.

Compulsory Hunter Safety Training Begins

AS HAS BEEN announced for many months in *GAME NEWS* and elsewhere, beginning September 1, 1969, Pennsylvania's Hunter Safety Program will be administered on a compulsory basis. No hunting license will be issued to any person under the age of 16 unless he presents (a) evidence that he has held a hunting license in Pennsylvania or another state in a previous year, or (b) a certificate of competency showing he has successfully completed a course of instruction on the safe handling of firearms and bows and arrows.

The Pennsylvania program is made up of, at minimum, a four-hour hunter safety course. Because of this training, the more than one million sportsmen who hunt in this state will take part in a recreation already safer than going to a Sunday School picnic. The many classrooms where youths and

adults alike have been taught how to handle guns properly and safely deserve the credit for much of this.

The scope of Pennsylvania's hunter safety course is wide, as an attempt is made to cover the many things which contribute to the making of a sportsman and a safe hunter. An approved course as outlined by the Pennsylvania Game Commission in cooperation with the National Rifle Association includes information on sporting arms and ammunition, their types and uses and instruction on how to care for and store them; safe handling of sporting arms in the field and home, as well as during transportation; zones of fire; self control; accuracy; sportsmanship; the hunter's responsibility; safe clothing; game identification; game laws; hunter-land-owner relations; and conservation. The final hour is devoted to examination and certifi-

cation, with emphasis on a review of all questions.

No charge is made for the basic course of instruction except for materials or ammunition consumed during a shooting program. Free guides are furnished to each student by the Pennsylvania Game Commission. Shoulder brassards are provided by the NRA and PGC at minimal cost, if desired. In addition, instructional aids for teaching, such as films, slides, charts, and training booklets, are presented to assist instructors in scheduling the minimum four-hour hunter safety class.

Okay to Expand Course

All sponsoring organizations have the right, in fact are encouraged, to expand the course as much as possible. This might include longer periods of instruction, actual range firing, and instruction under field conditions.

Since the hunter and firearms safety program was begun in June, 1958, on a voluntary basis, thousands of individuals, including Game Protectors, Deputy Game Protectors, interested sportsmen and others have been qualified as hunter safety instructors. Any school or other group interested in setting up a course in firearms training can obtain information by contacting the District Game Protector.

The initial step taken after the Game Commission's administration of hunter safety training, in cooperation with the NRA, was to establish a nucleus of qualified instructors. This was accomplished by returning veteran Game Protectors to the Game Commission training school and giving them a comprehensive course on sporting arms and their safe handling. They in turn, returned to their districts and certified other interested individuals as instructors. During this period of voluntary hunter safety, many milestones have been reached. These have included participation of almost a quarter of a million students and over 8,000 instructors certified for successfully completing hunter safety training. Assistance by sportsmen's clubs, civic and youth groups, state and federal agencies, and individual hunter safety instructors has highlighted a successful period of hunter safety training. Many schools and colleges have recognized the need for hunter safety and added it as a part of their curriculum.

Probably the most significant recognition of Pennsylvania's effort in providing safer hunting has been its receipt of the outstanding achievement award from the National

Rifle Association and Hunter Safety Committee of the International Association of Game and Fish Commissions—an award it has received seven times. The Pennsylvania Game Commission has received another outstanding award from the Pennsylvania Association for Public Administration for its contribution to hunter safety, as well as the highest award from the Pennsylvania Optometric Association for assisting with their vision-conservation hunter safety program.

Many outstanding events occurred during the past eleven years of organized hunter safety training. In 1964, the Pennsylvania Game Commission participated in the World Scout Jamboree at Valley Forge. During a one-week period, 30,000 Scouts were presented hunter safety training and given an opportunity to participate in a supervised shooting program.

Another very successful venture is the Junior Conservation Camp Program, sponsored by the Pennsylvania Federation of Sportsmen's Clubs, now in its twenty-second year. Youths selected from various Pennsylvania counties attend a two-week program at Pennsylvania State University. Many phases of conservation are taught, with hunter safety and marksmanship being presented by Game Commission personnel on two days of each course.

Prime Objective

These and many other programs combined to make our voluntary hunter safety effort accomplish its prime objective—that of making Pennsylvania a safer state in which to hunt. Undoubtedly, the 230,000 youths who have completed the minimum four-hour hunter safety course will lead the way in this.

Dedicated hunter safety instructors, sportsmen, and other interested individuals will make certain that all first-time hunters under 16 years of age desiring to hunt will not be deprived of that opportunity for lack of training.

We are confident that the citizens of this Commonwealth will display the same cooperation in determining the success of mandatory training as they have with a voluntary program.

If your boy or girl wants to learn how to shoot, don't say no. Shooting is fun for everyone. Enroll them in a hunter safety course under the expert supervision of certified instructors.

We repeat, shooting can be fun for everyone, and with your cooperation it can be safe. How about it?



THERE IS NOTHING MORE REWARDING than a bunch of youngsters at an outdoor camp—but they can be awfully demanding at mealtime!

Cooking for the Camp Crowd

By Joseph B. C. White

Photos From the Author

OUR GANG had just trudged in from an exhausting day of unloading and distributing truckloads of corn, hay, salt and other wildlife feed during a big snow. Nearly twenty Boy Scouts and a dozen adults stood glassy-eyed, tired from unusually heavy work, and hungry as wolves. I was glad at that moment for the opportunity my childhood had offered me when I watched my mother prepare meals for threshing crews—for I was the cook for that starved crowd.

We fed the boys first, dipping out big bowls of hot bean and bacon soup as a starter. You never saw twenty bowls emptied so fast. While the adults nursed their hunger with Spar-

tan determination, we heaped the boys' plates with fried chicken, mashed potatoes, green peas and creamed corn. With bread, butter, hot tea and milk, their hunger pains quieted enough to allow me time to dish up strawberry sundaes.

While the boys washed their own dishes we followed the same procedure with the men. This being done, I lit my pipe from the fireplace and relaxed.

I had arrived in camp only two hours before the crowd burst in. The question someone asked was, "How do you feed a crowd like this with two hours of preparation?"

Planning is the secret.

Cooking for thirty-two is just like cooking for two, only you need more food. When the menu is planned in advance and you have a sufficient amount of food, there's really no problem if you keep your head and plan your moves. In most of the camps I've visited, a decent stove is usually available, and that's the most important requisite. Whether it uses gas, electricity, coal, wood or kerosene, the cook should get acquainted with its eccentricities right away. After the stove is under control line up the utensils you'll need, store your grub where it will be handy and out of rodents' reach, post your menu (never ask them what they want), assign the kitchen help (never ask them), and you are in business.

Careful Shopping Saves Money

Plan the menus you want to follow before you shop for the grub. Estimate about a quarter pound of meat for each person for the main meals with proportionate amounts of potatoes and other vegetables. Multiply each serving by the number of people you have to feed. For instance, if you plan to serve potatoes at two meals for ten people, buy twenty good-sized potatoes—about fifteen pounds. If you serve eggs, plan two for each man for each meal where eggs are involved, and be sure to add extras for pancake batter, fried chicken batter, etc.

Make up your shopping list so that it includes all the items on your menu. Get nonperishables ahead of time; buy perishables just before you leave. Don't try to get eggs in Cameron County at 5 a.m. on Sunday unless you're a whiz at getting in and out of hen houses quietly!

Timing Essential

When you have to feed a lot of hungry people, feed them quickly. Plan your dishes so that all are ready at the same time. Allow plenty of time for preparation and move fast when it's ready. For instance, don't wait to put

the coffee on just as you're ready to serve the main meal. I like to have two big pots of the black stuff bubbling when the boys show up. Start fresh pots as soon as they are empty. Don't get embroiled with such tasks as emptying garbage, etc. Let someone else do that. You and your kitchen crew should be the only people in the galley. Keep all others out.

Keep Recipes Simple

Certain foods lend themselves to big meals. Chicken, ham, stew, chili, roast beef, soup—these are easy to prepare *en masse*. Beware of the pitfalls involved with steaks, or you'll find yourself reciting the numbers of "rares," "mediums" and "well dones" in your sleep. If you ever get to sleep after that! My two favorites are ham and chicken, I can prepare both ahead of time and whip up the side dishes at the last minute. The same goes for desserts. I never have had a complaint on strawberry or chocolate sun-daes, and nothing could be easier to scoop out and serve.

Serve Food Correctly

There's no reason to forget manners just because you are out in the woods for a weekend. Have the table set by your crew, use bread and butter plates, serving platters and dishes. At a big table see that there are "centers" of bread, butter, salt, pepper, etc. Serve meat on two small platters instead of one; or in the case of ham, bring it already carved to the table and have an adult serve the group family style. For human beings the bountiful table is a thing to be thankful for, especially for outdoorsmen who realize that this bounty comes from the land. A meal with friends is one of life's most pleasant experiences. It should be served with dignity and thanks to God.

Breakfast Takes Special Touch

Main meals or dinners will actually be the easiest meals to prepare. Usu-

ally there is time to do it right or even to correct mistakes. But breakfast, man, the troops are staring into the same fire they left only three or four hours ago, someone has a record player going with a kiltie band screeching like banshees, and you—like it or not—are in front of the stove, facing the task of stoking the crowd with enough fuel to start another full day. The smart cook has had his kitchen help make sandwiches and has all the lunches packed the night before so that lunch offers no problem. If hot cakes are on the breakfast menu, he made the batter the night before, prepared the sausage or left the bacon out where it would be something less than frozen at reveille. Put bacon on when you start the coffee. Use broiler if you have one—gives you more stove-top space.

Plan to throw the first two hot cakes to the birds. You need that many to see how the griddle is performing. It's hot enough when drops of water sprinkled on it skid around the griddle instead of bubbling. If pancakes burn, the griddle obviously is too hot. Get the right heat and keep it. Make small cakes, about six inches in diameter. They're easier to turn, and you give the illusion of more progress to the vultures who are watching you. Heat the syrup. It'll make any cold cakes more palatable.

Use a good pancake mix. Follow directions *precisely*. Don't stir too thoroughly, lumps of mix will make cakes lighter. Turn when you see holes starting to puff through the cake. Run the spatula under the cake to keep it from sticking and check "doneness." It's a good idea to fill the percolators the night before. Put the coffee on the stove as soon as you're up.

If breakfast calls for eggs, scramble them. It is difficult to fry eggs to order

for a big crowd and keep them happy unless you're a boarding house "hash-slinger" with professional training and have plenty of time. Serve the scrambled eggs with sausage, bacon (use separate skillets, of course), or ham slices, toast, butter, jelly, coffee, hot chocolate and fried potatoes, if you like. Keep the toaster on the table and assign one person to keep the toast coming. See how simple it is!

Two Favorite Dinner Recipes

Soup	Saltines
Fried Chicken	Bread
Mashed Potatoes	Butter
Green Peas	Coffee, tea or milk
Creamed Corn	Ice Cream Sundaes

Use canned soup, allow two cups per man, merely mix and heat.

Chicken: Allow one-half breast and two drumsticks per man. Have butcher cut breast in half. Get small drumsticks. They're easier to handle and you'll get more in the skillet. **ON THE NIGHT BEFORE YOU SERVE CHICKEN**, salt each piece heavily, place in crock or dish covered with lid or foil. When preparing, dip in batter of milk and eggs, then roll in flour or bread crumbs. Add no more salt. Fry in about one-half inch oil. Peanut oil is just right. Turn frequently. When brown—about twenty minutes—place in large pan in preheated oven at 350°. Keep adding until all chicken is fried. Baking will make sure meat is done. Plan to serve 15 minutes after last chicken is fried.

Potatoes: Boil in salted water (teaspoon to gallon of water). When easily pierced with fork, drain off water, mash, adding milk or cream to get right consistency. Serve with large pat of butter. New instant mashed potatoes are great, and leftovers can be reheated easily to feed late arrivals.

Peas and corn merely have to be heated. Allow 15-20 minutes if peas are frozen. Salt lightly.

My second favorite is the same menu with baked ham substituted for the chicken. Buy the ham with care; get the best. Nearly all hams are pre-cooked now. Just heat thoroughly; serve topped with pineapple rings and cloves, and it'll be a short-lived sight!

Just Hungry?

The polar bear, unlike his cousins, does not take a long winter nap but rather spends most of his time searching for food.

*Though Many Campers Don't Fully Realize It Yet,
In the Outdoor Field It's . . .*

Plastics, Plastics Everywhere!

By Les Rountree



THERE WAS a time, and it wasn't too long ago, that most knowledgeable campers turned up their noses at anything made of plastic. In the early days of synthetics, a brief twenty years ago, the material used as a substitute for metal was not something to get very excited about. It cracked during cold weather and melted during hot spells. It wouldn't stand any kind of rough use. In general, plastic was a cheap make-do material that did not have a good reputation. The picture certainly is different today.

It's difficult to call anything just plastic today. The word plastic has become a generic term that covers a wide list of man-made products. We have vinyl, nylon, orlon, teflon, glas-tron, fiber glass (in dozens of forms), expanded vinyl, structural nylon, poly this and poly that and heaven only knows what else. Most of it is pretty good for the purposes the manufacturers have applied it to. In fact, it is much better than metal, wood or glass in many cases. While I still like genuine walnut for gunstocks and real bamboo for fly rods, synthetics are creeping into the gun business and anyone who hasn't fished with a glass rod just hasn't been around.

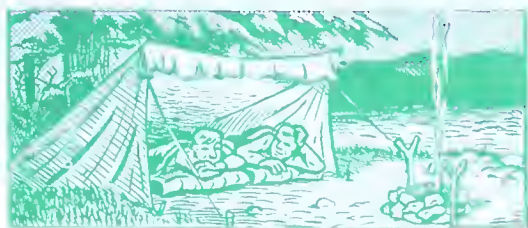
In the last two columns we have talked a lot about going light. One basic item that a backpacker needs is something to sleep under. Even the very small canvas pup tents are bulky

TODAY'S PLASTICS are a far cry from those of only a few years back. We now can get tough, non-tasting, inexpensive items to handle endless chores around camp.

to carry and enormously heavy, especially when they are a bit damp. The U. S. Army changed all this a few years ago when they issued their two-man reversible mountain tent. This was a plastic-coated nylon affair that weighed a mere three pounds and really could sleep two persons (though a summer spent in one of these convinced me that it was really better when only one body decided to sleep in it). This GI creation was white on one side and dark green on the other. The white side was great if you were camping in a hot climate and of course the opposite was true if you wanted to absorb more heat. Soldiers who used these lightweight jobs convinced several manufacturers that the civilian market needed such a tent and several are available today.

Plastic Ice Chests

Plastic ice chests obviously are here to stay. In the days before synthetic coolers, one or at the most two seasons was about what you expected from the metal boxes. The lining, regardless of the type of metal, would rust through and manage to soak down everything within three feet. This always took place in the car trunk or back end of the station wagon. Today the flexible plastic cooler will stand just about anything, including salt water. Of course the inexpensive foam-type coolers won't take too much punishment, but you buy those for a one-shot excursion anyway. Along these same lines, the plastic water jug and vacuum bottles are much better than they were a couple of years ago. Water jug valves and caps are being sealed with nylon and neoprene (there's another one) O-rings that really seal the heat or the cold in.

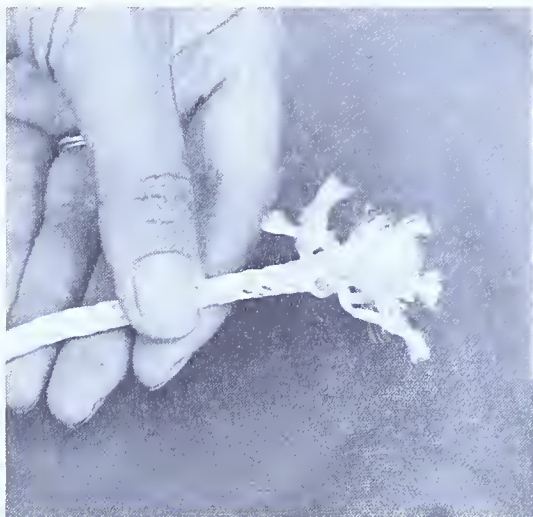


AVAILABLE IN MANY sizes and shapes, today's plastic gear makes it feasible to pack and carry liquids, jellies, butter, what-have-you to camp and back.

Another item that has caught my fancy is a folding plastic water bag—or I guess you could call it a can. This gadget will store in a flat configuration and doesn't take up much space in either pack or car trunk. A decided improvement on the tin or galvanized can. It won't rattle or rust and can be purchased in two and a half- or five-gallon sizes. I haven't tried it yet but I'll bet they would work just fine as reusable ice holders. The advantage here would be a drip-proof ice container that could be re-frozen and used in a conventional box cooler.

As with paper towels, I sometimes wonder how campers ever survived without the little disposable plastic sandwich bags. In addition to keeping sandwiches fresh when traveling, they have become a standard item for freezing game and fish in an airtight container. Fish and game sealed in plastic before wrapping with freezer paper definitely hold their flavor for longer periods than items not similarly handled. The plastic bags are also great for leftovers at home or at camp.

Among the smaller plastic items, I especially like the transparent utility boxes that have been around for quite



NYLON ROPE has countless uses around camp, but cut ends fray like this. To overcome this, simply . . .

a while. They are made from much better material than they used to be and are handy carriers for nuts, bolts, tea bags and anything else you feel you should carry. The contents are instantly seen and they last forever if not run over by a truck. If you put some item in one of these boxes that you want to keep completely dry, seal up the edge with a strip of plastic tape. This stuff comes in 97 different colors and really works.

Speaking of tape, have you tried one of those tape markers yet? I'm sure you've all seen them. You know, the little gadget that prints a message on sticky colored tape. This stuff is great for marking camping gear, including such personal items as toothbrushes, drinking cups and just about anything you'd like to stick it to. At large camp-ins where there will be a lot of similar gear floating around, it's not a bad idea to put your name or at least your initials on all items of major importance. I saw one camper last season who apparently was a little forgetful. On the trunk of his car (he was towing a camp trailer) a check list of things to do before pulling away was printed in red tape. "Fasten safety chain. . . . Check turn signals. . . . Tie down luggage rack," etc. The last

item on the list really tickled me. It read, "Count kids." Come to think of it, this checklist idea isn't a bad one, especially if this is your first or second time out with a trailer of some kind.

I've got a thing about flashlights. I like 'em. Maybe the psychologists will say that this stems from an early fear of the dark, but I like to see what's going on at night when I'm setting up camp. Plastic materials really shine here (the pun is intended). They don't rust, they don't short out as frequently as metal, and they don't dent along the body, making it difficult to take out old batteries. If you do forget to remove old batteries from a metal flashlight for a few months, you might just as well throw it away. The corrosion that glues everything together makes it impossible to clean the thing up. Not so with a plastic flashlight. You simply wipe it off, apply a new dose of batteries and you're back in business. In addition, some five- and six-cell lights are available that stack the batteries instead of standing them end for end. It was the mark of the coon hunter or smart camper to have a long "pole" flashlight a few years back, but the newer compact lights make those things seem awkward. If you really

. . . HOLD IN A MATCH flame. Heat melts ragged ends, prevents further fraying of this light, strong line.



want a compact yet powerful light, try one of the newer rechargeables. These things will cast a beam equivalent to that of a six-cell job, yet weigh less than a pound. Of course you have to plug them in once in awhile, but they do make a great car light.

Nylon Rope Useful

Nylon rope is another one of those really good synthetic products that make camping and a lot of other things easier. It's lighter, stronger and easier to handle than any other kind of rope I've used. It won't swell in the rain and will not rot. You have to be a little more careful with your knots, since the material is slippery. Anyone who spends time out of doors should have a length or coil of nylon rope in his car. I can't remember just what I used it all for but I must have used up at least 300 feet of it last season. Most of it probably went to fellow campers who didn't bring their own.

With the compact raincoats on the market today, there is no excuse for any outdoorsman to get wet. The plastic raincoat or poncho can be purchased at any figure from 98 cents to \$25, depending on quality. The cheapies are good for about one or two emergency situations but well worth it when you need it. I usually have about a half-dozen of these things tucked away in car, pack, tackle box and hunting coat. The really good ones are very durable and will last for years if you don't cross paths with a barbed wire fence. The better quality rain gear is the ticket to wrap up in when you know you're going to get wet, and the one-timer should be used only in emergencies. A tip . . . in a pinch you can use a

**The Game Law
Violator Is
Stealing From You!**



AN ITEM THAT will see daily use is this water carrier made of lightweight plastic. Unit folds into the small package shown in inset.

plastic raincoat as an emergency water bag. You can't carry much, but it's a whale of a lot easier than carrying water in your pocket.

Plastics are being used for the big items too. For instance, we have a pickup camper body on the market now that is 100 percent plastic. The company that makes them says they are virtually indestructible and never need painting. More and more plastics are being used in pop-up campers too, and just this past summer a bus camper hit the scene that is one contiguous piece of fiber glass. No rust, no rattle, and it just may set the pace for all others.

After all of this about plastic and its versatility, you might get the idea that metal and wood are fast becoming obsolete. I sure hope not! There are some areas that synthetics probably will never take over. As men-



COMPARTMENTED BOXES for small items, also made of plastic, have many uses in camp. Hinged lids provide instant access, while transparency permits view of contents without opening.

tioned before, I can't bring myself to admire a plastic gunstock. Coffee made in an enameled coffee pot will always taste better, and how in the world are you going to throw a plastic log on the campfire? Of course we mustn't fall into the trap of believing that every new thing that comes along (just because the maker touts it) is great because it's plastic. As with all products there are good, bad and indifferent grades. Check out that new product carefully, examine it in the store, ask the salesman some pointed questions, and if possible ask someone who owns what you're thinking about buying. The camping and outdoor business is the biggest thing happening today and the manufacturers know it. Be a critical buyer of plastics. We'll all benefit because of it.

Book Review . . .

The World of the Woodchuck

The woodchuck is perhaps best known as the animal which has caused the development of more high-velocity, super-accurate smallbore cartridges than any other species of wildlife. But little reliable information on the chuck—or groundhog, whistle-pig or whatever—has appeared in the popular press. This has now changed. In this addition to the Living World Book Series edited by John K. Terres, W. J. Schoonmaker gives an excellent year-round picture of the life and habits of the woodchuck, beginning with its emergence from hibernation—usually in March—through the spring mating season, summer and autumn—with plenty to eat if the chuck itself doesn't make a meal for one of its numerous enemies—and into winter, once more the time of hibernation. Packed with useful data—such as that a chuck may eat one-third of its weight in a day but rarely if ever drinks; that most are monogamous; that the average burrow is about fourteen feet long with a spy/air hole and a separate excrement chamber—this book provides excellent material for anyone interested in this species for whatever reason. (*The World of the Woodchuck*, by W. J. Schoonmaker, J. B. Lippincott, East Washington Square, Philadelphia 19105. 146 pp., \$5.95.)

Sweet Tooth Types

Bears and humans have at least one thing in common—tooth decay. A favorite bruin diet consists of honey and all types of berries, just the thing for producing cavities.



How Heavy a Bow?

By Keith C. Schuyler

Photos From the Author

WITH THE opening of the bow hunting season for deer just around the calendar, it is a good time to consider the often asked question, "How heavy a bow should I have for hunting big game?"

The answer can be very simply stated, "All you can handle." However, there are many considerations to make before choosing the weight of a bow. The answer today implies much more than it did a relatively few years ago.

As the archery scene was enlivened by the introduction of a special bow hunt for deer in Pennsylvania, almost everyone headed for the heavy end of the bow rack. It was simply a case of, if a little is good, a lot will be better. However, it didn't take too long for archers to discover that this was a conditional observation. Far too many bought bows that they could

not handle. The end result was somewhat ludicrous.

Many archers stood in front of a target with bows half-drawn simply because they could not handle the weight. Or they went into all sorts of contortions to get the bow to proper draw, but they couldn't hit anything with it. You still see the same thing today, but it is much less prevalent.

In the early days it made sense to buy a heavy bow. Equipment of only twenty years ago was far inferior to that offered today. Most of the bows were one-piece, and the cast did not match up with the power. It took much more drawing power to obtain the same results with the old equipment when compared to the excellent bows offered today. My first was a 75-pound monster that could not touch the average 40-pound, reflexed beauties that are common today.



Photo by John Power, Ontario Tourist Division
SCHUYLER'S FAVORITE 50-lb. bow is adequate for white-tailed or mule deer, he feels, but would be marginal on moose.

Nevertheless, the principle of obtaining as heavy a bow as one can handle for big game has not changed. It must be understood that being able to *handle* a bow implies that the archer can draw, hold for at least a few seconds at full draw, and then get a good release. Any less ability defeats the purpose of carrying a heavy bow.

There are actually two important considerations in shooting as heavy a bow as the hunter can properly use. Of primary consideration is the need to obtain sufficient penetration to bring down a big-game animal. The second in importance is the frequent need to have as flat a trajectory as possible. These two important facets should be considered separately.

This writer has never satisfied him-

self as to which is the better, a complete pass-through or merely deep penetration. Those who argue for the pass-through point out that this opens a possibility of a double blood trail, making the animal easier to follow and increasing the bleeding. Since the hemorrhagic effect of an arrow is responsible for the kill, maximum bleeding is desirable.

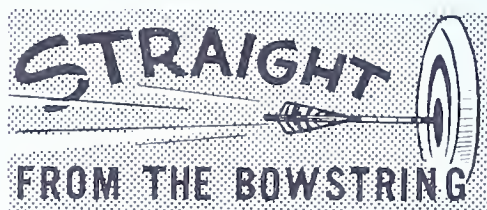
Penetration

The farther an arrow travels into or through an animal, the more damage it will do initially. There is no question about this. There is a question, however, as to the eventual damage. A sharp arrowhead which remains in the animal continues to inflict internal damage during the death flight. Adherents of merely deep penetration as opposed to pass-through, will argue that it is internal bleeding that brings down the animal, and the *evidence* of this is not as important as the *damage* inflicted.

In any event, it is important to have deep penetration, whether complete or partial. This immediately points up the necessity for a bow which can deliver an arrow with sufficient force to accomplish either.

The importance of trajectory is most evident in the heavy growth which is the frequent haunt of Pennsylvania deer. It is not unusual to find the animal fairly well hidden by leaves and limbs that would preclude a shot from a relatively weak bow. Further, the flatter the trajectory, the less chance of error, since it is difficult to judge distances under woodland conditions. Again we have a sound argument for a powerful bow.

But just how powerful? Although it may be a moot question, the opinion



here is that no one should hunt Pennsylvania deer with less than 40 pounds *at the individual's draw*. Bear in mind that the stamped weight of the bow is of little importance unless it was custom ordered for that weight at the draw distance of the individual archer. All other bows are marked to show the draw weight at 28 inches. Those shooting a shorter arrow will draw less; contrariwise, those who overdraw get a heavier weight than that marked on the bow itself.

Already there are those who undoubtedly will take issue with the former, since they know youngsters and women who shoot light bows but who do it exceedingly well on the target line.

It is also a known fact that some of the most expert target archers fail miserably in the field regardless of the weight bow they use. In the excitement of the shot, the bow may not be pulled to full draw. Brush may prevent a full draw. There may not be *time* to get to full draw before the release. It will be argued that no one should release without coming to full draw. This is a valid observation, but it doesn't change the frequent situation which develops under hunting conditions.

Short Bows

Although length in a modern bow has no direct bearing on its weight, it is worth considering for the discussion. For a time, about ten years ago, there was a swing to short bows. With the old self bows, it was impossible to build in the power needed with conventional woods. Consequently, when laminated bows came on, manufacturers played around with the idea of building bows shorter and shorter, since the power and cast could be maintained and the bows were presumably easier to handle.

It was also erroneously reported that the short bows were much faster for their weight than the longer bows. Recent tests in the field have confirmed that the long bow is a fraction



BRUCE DIATTERICK practiced long and hard with his new 45-lb. bow before his first try for deer in 1968.

faster than a short bow of comparable weight.

This leaves only the size of the short bow itself as an advantage. For example, a short one is much easier to handle from a tree stand where a long bow has a tendency to come up against the stand itself on an abrupt angle shot. It is certainly more difficult to handle a long bow in heavy brush. However, the difference is so slight as to make this a questionable argument in favor of the short bow. After all, we don't carry our bows upright, and from an end view the long bow is no larger than a short one. The longer bow does require more space



STAN WILLIAMS, vice-president of the Pennsylvania Archery Association, carries 37-lb. bow but gets 42-lb. effectiveness at his 32-inch draw.

to manipulate, a slight handicap in thick cover.

Number of Disadvantages

On the minus side, the short bow has a number of disadvantages. The sharp string angle tends to pinch the fingers and to make a smooth release difficult. A short bow is a light bow (in physical weight), and it is more difficult to hold it steady. It will kick or jump more on the shot. It is somewhat like comparing the weight of a target rifle and a field gun.

If there is an archer who can shoot one of the very short hunting bows, under 50 inches, better than he can shoot a longer bow of comparable weight, I have yet to meet him. It is sometimes pointed out that Howard Hill used the 72-inch bow for some of his famous exploits in the hunting field.

There is no intent here to discourage anyone from choosing a length which he likes best. It is intended to discount some of the erroneous arguments in favor of a short bow.

It is an interesting observation that once more the trend is toward heavier bows. Today's laminated bows are so

constructed that the buildup of power is so gradual as to permit the archer to accustom himself to the heavier weights. In the old one-piece bows, the power was frequently found in the last few inches of draw. This not only caused the archer discomfort in drawing, it caused the bow to explode upon release so that the arrow did not get away smoothly. Since the major emphasis is on hunting, at least in Pennsylvania, those who can afford only one bow or have but this interest are inclined toward the heavier weights. Target archers, who have found that lighter bows produce the best results for the average archer, frequently invest in a second bow for hunting. The only caution offered here is to avoid getting into weights beyond the capability of the individual hunter. It is far better for an archer to stick with a 40-pound target bow for his hunting, if he can shoot it well, than to go for the heavier bows.

Although size of the archer himself can have some bearing on his selection, it is seldom an important determining factor. Rather, it is the amount of shooting that is done by

the individual which determines his capabilities rather than any apparent physical advantages. It is true that a six-footer who shoots as frequently as a five-footer will likely handle a comparably heavier bow weight. But many of the shorter-statured archers who shoot frequently are much more capable than tall men who get in little practice.

Another important consideration in choosing a bow is that of the game species being sought. Any bow of 40 pounds or more which utilizes all its potential should be sufficient for Pennsylvania deer. Those who hunt far afield may wish a heavier bow for other than the previous considerations given here. For example, we found that Colorado natives use bows about ten pounds heavier than the average found in Pennsylvania. Mule deer are slightly larger on an average than Pennsylvania whitetails, but the heavier weights are more probably prevalent because of more open shooting. It is likely that any bow which will do a proper job on white-tailed

deer is equally effective on all of the more common deer species.

However, elk and moose are considerably larger animals. This would also be true of the larger bears. Although the *average* Pennsylvania hunting bow will suffice for black bear, the archer should move up in weight if he plans to go for any of the larger species such as grizzlies or brown bear.

Although my current 50-pound bow is sufficient for average hunting, I hope to graduate to a 60-pounder before trying for Ontario moose next month. Meanwhile, I am putting my hopes on the 50-pounder for Quebec caribou. Although you can discount anything here for the target line, it might be worth a thought that Ray Rogers, World Champion in 1967 at Holland, was shooting a 51-pound bow. No matter what our personal preferences might be, our first thought should be of the game we seek. Consequently, it is always better to be over-bowed than under-bowed in the sport of big-game hunting.

Bowhunters Aid Retarded Children

The Keystone Federation of Bowhunters set new records at their tenth annual charity shoot for the benefit of the Retarded Children's Association, according to Marty Thomas, Keystone's president. "The two-day shoot is becoming one of the highlights of the eastern archery season," he explained. "Shooters come to have fun and we see that they do. Competition is important to the charity shoot, but we also see that shooters have pleasant conditions, good food, good novelties and something of interest to everyone."

One of the highlights of the shoot was the exhibit prepared and operated by the Game Commission with District Game Protector Harry Nolf in charge. Harry had young pheasants and quail in incubator cages on display, some so young you could almost see them growing larger as they ate. As a result of the efforts of the Keystone Federation Clubs, the Retarded Children's Association, and people like Harry Nolf, our less fortunate friends have \$3500 more to work with, and the participating shooters had a ball.

And They're Small!

Although no larger than a thumbnail in size, the female peeper frog lays approximately 1000 eggs.



WILBUR ANDERSON OF GREENOCK finds M700 Remington 22-250 topped with 10X Unertl target scope deadly on chucks as far as he can see them.

FROM CHUCKS TO BUCKS

By Don Lewis

Photos by Helen Lewis

"GO RIGHT AHEAD and hunt all the chucks you want," the old farmer remarked cheerfully as we shook hands. "I always let a man hunt when he's good enough to ask. Some fellows don't, you know."

"My rifle cracks pretty loud," I told him. "Do you think it will bother any of your livestock?"

"Naw, I don't think it will. But it might be better if you hunted back over the hills away."

"Fine," I answered.

"What in tarnation do you have there?" the old farmer blurted out as I got my rifle out of the car.

"That's my chuck rifle," I answered, and handed it to him.

"Is that long tube on top some sort of a sight?" he asked as he examined the heavy-barrel 220 Swift.

"That's right. That happens to be a good 10-power target scope."

"I can't see a darn thing through it. What's good about something that you can't see through?"

A few minutes later, I had him sitting beside a hay baler, surveying the countryside through the scope. While he was amusing himself, I happened to see a chuck stand up about 300 yards away. I suggested that he take a crack at it.

"That chuck's clear over in my next field. How are we going to get near enough without spooking him," he asked.

"Shoot from here," I said without taking my eyes from my binoculars.

"Shoot from here!" he nearly shouted. "How gosh darn far will this gun of yours shoot? That's clean

across two of my biggest fields."

"If you can hold the scope on him, you'll get him," I said. "That Swift is right on at 300 yards. You can take him right from here."

The old man looked at me thoughtfully for several seconds. "You're not trying to pull my leg are you, young man? I hunted for nearly 60 years. Never used any fancy contraptions like you have here, but I've killed a pile of game. Seems to me I'd just be wastin' a shot to shoot from where we are."

"Don't worry about the shell," I said. "Give it a try."

"Well, it's your stuff I'll be wastin', " he remarked as he dropped the loaded round into the action. "Just tell me once more how I'm to use this fang-dangled chuck rifle or whatever you call it."

Let Landowners Shoot

I went through the entire routine again while the old man drank in every word I said. I had a sneaking feeling that there had been a day when this old fellow could shoot. I really had no hopes for him as far as connecting with the chuck, but I've always been quick to offer my farmer friends a shot or two from my rifles. I've found that most of them enjoy it.

"Here goes," he muttered as he practically wedged the rifle among some levers on the baler. It seemed to me that he was never going to shoot. Finally, his index finger touched the set trigger on the Swift. The chuck was flattened.

"You got it," I shouted.

"How the heck do you know, the bullet ain't had time to get there yet," he shot back sarcastically.



Photo by Leonard Lee Rue, III

EVEN A BIG CHUCK weighs only 12 pounds or so, thus does not offer a large target. The summertime hunter who can collect chuck tails consistently rarely has trouble on deer in December.

He had a good 50 years on me, but I had to hurry to keep up with him as we practically trotted toward the chuck. The old man's eyes really got wide when I showed it to him. He just shook his head in disbelief. Time and again, he looked at the chuck and then back to where we had been sitting.

"Oh, my," he said, still wagging his head. "I just can't believe my own eyes. That must be a thousand feet across those fields."

I didn't get any shooting that night. By the time I carried the chuck back to the house and listened to him explain to his wife every aspect of the shot, it was too late to hunt. I can't kick though; two pieces of cherry pie and three cups of hot coffee made it worthwhile.

My newly acquired friend lost no time in getting himself a 222 with a fine 8X target scope on it, and he made good use of it, too. I haven't any idea how many chucks he shot just the first summer. The thing that really made me think was a phone call from him in deer season telling me he had just shot a nice six-point. He gave credit to the scope he had put

on his M94 Winchester 30-30, but the thing that still sticks in my mind was a comment about going “. . . from chucks to bucks.”

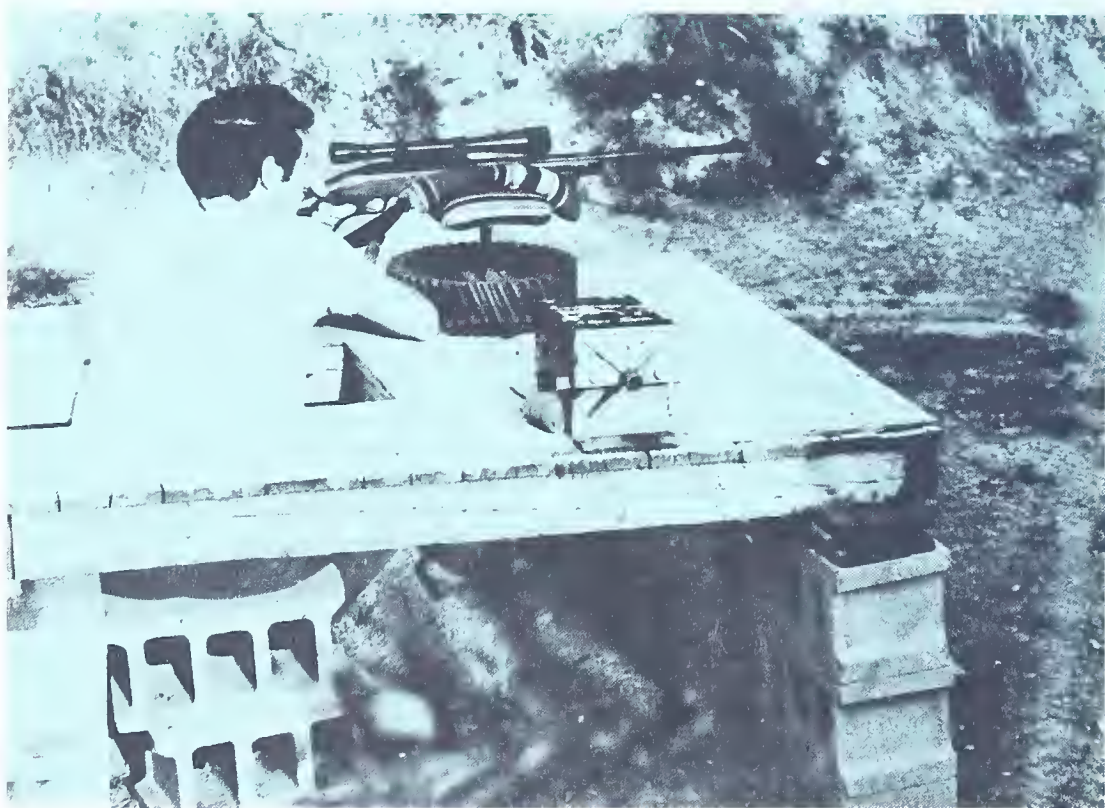
No doubt the old man did gain a lot of valuable shooting experience from his summertime practice on woodchucks. For one thing, he gained confidence in himself that he could hit a deer more than 40 or 50 yards away. His previous big game hunting had been done in the thick brush. Shots seldom were longer than 75 yards, and most of them were as close as 20 yards. This is almost point-blank shooting. A rifle can be pointed with amazing accuracy at short ranges even at running game. I often refer to this type of shooting as shotgun shooting. When a deer or bear gets over 100 yards away, it's quite a different story. It would be sheer luck to just point a rifle and hit a deer 600 feet away. A sight picture has to be taken to

make long shooting pay off. The old man spoke with real pride when he told me that he had actually measured the distance with a steel tape and it was 155 yards. That's darn nice shooting with a 30-30.

Practice of any kind usually pays off. Whether it be benchrest shooting or summertime chuck hunting, it will make you a better shot. Naturally, you have to learn how to hold properly, breathe correctly, and squeeze the trigger evenly. These are “musts” if you want to become a good shot. True, you think you don't do these things when a buck is bounding across a right-of-way, but the good habits you formed while practicing will automatically work to your advantage when the critical moment arrives.

I believe that eight out of 10 shooters cant the rifle, don't bother holding their breath, and jerk the trigger. This is not a reflection on

DARREL LEWIS FOUND THAT M88 Winchester 308 was fine on deer, could also serve well on chucks when 12X Weaver scope was installed.



their abilities, it's simply that they haven't practiced enough to correct these common faults. Due to the lack of practice, they have to be out of condition when their target appears. One man told me he missed a buck five standing shots. When I watched him shoot from the benchrest, he broke every rule in the book. In fifteen minutes I had him putting all his shots in a four-inch square at 100 yards. He kept right at it throughout the remainder of the summer, shooting paper targets, chucks, and crows. Shortly after lunch on the first day of buck season, he dropped a nice six-point at better than 150 yards. He told me over the phone that he had a very poor opportunity, but the confidence he had built up over a summer of shooting convinced him that he could place his shot precisely. He did—the buck was shot right through the neck.

The First Step

The first step toward becoming a good shot is to shoot from a benchrest. Although I had taken a fair share of big game and hundreds of chucks, I really never had a comprehensive knowledge of shooting until I built a benchrest and began punching holes in paper. I was one of those 200- and 300-yard chuck shooters, but I just couldn't fire a tight group from the bench. I soon learned that there's a lot of fatal area even on a chuck. The exact aiming point could be missed by six inches and still clobber the chuck. When you spread 10 shots over a three- or four-inch circle, it looks pretty poor. Being a persistent sort of a fellow, I kept grinding out handloads and firing them from the bench. A few tips from some guys who knew how to shoot, plus some things I stumbled onto by myself, began to improve my shooting. My groups dropped from around three inches to an inch. When I look back, I have no idea how I connected on so many long shots when I was such a poor shot.



Photo by Leonard Lee Rue, III

COMPARED WITH A CHUCK, a buck offers a large target. Also, it usually is taken at shorter range. Still, a lordly whitetail can be awfully easy to miss!

The bench teaches self-control and how to aim. I have had man after man tell me he had no idea how his bullet missed the bullseye by so wide a margin when he had the reticle smack in the center of it when he shot. I know they thought they had their reticles centered, but unless a concentrated effort is made to hold it on the target, it will slip just as the trigger breaks. When I shoot, I freeze the reticle on the aiming point and never quit concentrating. The second you start thinking about trigger squeeze, getting hit with the scope, recoil or whatever, you're in trouble and the reticle is off the aiming point.

Follow Through

"Follow through" is a term used in many sports, and I believe it could be used when referring to aiming. Keep the gaze glued on the reticle's position until the shot is fired. I've noticed many times at the benchrest that I would flinch for no apparent reason



WHILE LEWIS WATCHES WITH BINOCULARS, Ray Johns prepares to send a high-velocity slug from his 225 Winchester at a chuck on a distant hillside.

before the shot was fired. These are only tiny flinches but they're enough to spoil a good shot or small group. In hunting, these would never be noticed by the hunter, but they would show up in his shooting. Most chuck hunters will admit that they have missed chucks because they pulled off just as they were about to fire. The bench points out these flaws and nasty habits. When the shooter corrects them, he's a better shot all the way around. For years, I hated to fire an extra shell in zeroing in my rifle. After I learned what target shooting could do, I began to shoot dozens of shells at the bench for every one I fired in the field.

Start On Paper

Don't be afraid to start out on paper until you know what you and your rifle can do. It won't cost you a fortune to see the glaring mistakes you've been making for years. Even though you've bagged a few deer, the bench will still improve your shooting. When the groups become fairly consistent in size, you will know that you have

ironed out some of the little mistakes. Tackling some crows and chucks will sharpen your hunting eye. This type of practice helps because you are no longer shooting at a known distance, and the changing terrain puts you under actual hunting country conditions. The move from the bench to the field might be difficult at first, but just as the shooting mistakes were ironed out at the bench so will the hunting mistakes be ironed out.

The old farmer thought his hunting days were over. The confidence he gained by summertime shooting hung a buck in his wagon shed; perhaps you could use the same formula. One champion told me that confidence in oneself is 90 percent of the battle. The only way to build confidence in your shooting is to get out and shoot. Coming home empty-handed due to poor shooting is ridiculous when a few evenings at the bench or bustin' varmints could have made you successful. The old farmer said, "From chucks to bucks." Trouble was, he was over 70. Are you going to wait that long to see the light?

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Pennsylvania GAME NEWS

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COVER PAINTING BY NED SMITH

The Canada goose is one of our great game birds. The honking of migrating flights in the moonlight excites even little 90-year-old retired schoolteachers—and what it does to waterfowl hunters is beyond description. Coming toward a blind, these tremendous birds resemble bombers in the gunners' eyes, and they approach almost as quickly and sometimes seem as hard to bring down, even with a magnum load of 4s. Why not? One might weigh 10 pounds and be traveling at 60 mph, and these ingredients—size and speed—make for an impressive bird up there in the blue. Don't miss any chance you have to hunt him.

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Handgunfiscation?

IT'S ONLY A FEW short years—though it seems longer—since the widely publicized push for additional gun control laws started. Many thoughtful sportsmen, studying the dozens of proposed legislative bills, predicted that such suggested restrictions would become tighter and tighter until ultimately the confiscation of all firearms would be proposed. Anti-gun people vociferously denied this. Their only goal, they claimed, was to keep firearms out of the hands of criminals and persons who for obvious reasons should not have access to guns. How they were going to restrict criminal use of firearms never was fully explained. They gave the impression it would just sort of come about after they'd had their way in the state and federal legislatures. But as to confiscation . . . that was the farthest thing from their minds. They didn't even want to mention the word.

Well, on July 28, when the National Commission on the Causes and Prevention of Violence released its report, it recommended the confiscation of about 90 percent of all handguns now legally owned in the United States.

Essentially, under the NCCPV plan, all handgun owners would have to be licensed, and only those persons who showed "reasonable need" (such as policemen, security guards and small businessmen in high crime areas) would be granted licenses. All others would be required to turn in their handguns—for which they would receive payment of about \$20 per gun.

This report, a lengthy item, has numerous other recommendations relating to firearms, but none so interesting as this one on handgun confiscation. You might wonder about the individual's right to keep a handgun in his home for self-defense. If these recommendations become law, you and I will not have this right. However, as the NCCPV explains it, this is for our own good. Too many of us are accidentally shooting ourselves, they say, and so it logically follows that if our handguns are confiscated we cannot harm ourselves with them. The NCCPV is nothing if not solicitous of our welfare . . . anyone can see that. They don't seem as concerned about the economics of the situation as seen from our viewpoint. I mean, \$20 might be a reasonable price for the usual junker that a dope addict sticks in a victim's ribs to get his daily fix, but it wouldn't even be a down payment on the typical Colt, Smith & Wesson, Ruger, Hi-Standard or whatever that most sportsmen use.

And use legally, we might add. That's the crux of the whole situation. We're all opposed to the criminal use of firearms, and practically all sportsmen advocate stiff mandatory punishment for such use (something the anti-gun people generally oppose). The problem is one of attacking crime without unjustly harming legitimate sportsmen. And almost all handgunners fall into this latter group. It's doubtful if more than a few thousand persons in the country use handguns criminally. Should some millions of law-abiding citizens have their handguns confiscated because of these criminals? And if they are, will the next step be confiscation of rifles and shotguns? The anti-gun people admit long guns are used in far fewer crimes than handguns, though owned by many more people, but they'd still like to take them away from us.

It might be a good idea to let your federal lawmakers know right now how you feel about the NCCPV's recommendations on handgun confiscation. That's the word, even if the antis don't like it. In case there's any doubt, it's spelled C-O-N-F-I-S-C-A-T-I-O-N.—*Bob Bell*



Patsy and I

By Archibald Rutledge

PATSY, the daughter of Carolina Frank, is a princess by right. I became Patsy's owner when she was only four weeks old, and she already showed her blue blood and all it means in a pointer pup. Sensitive, patrician and affectionate, she was not happy unless she could curl up in my lap by day and sleep on my bed at night.

She was high-strung to a degree. When she first barked, the sound of her own voice almost scared her to death. One day she retrieved an old tin can and brought it up the front steps, and the noise it made when it got away from her made her tremble. Most pointers have a very business-like temperament, but Patsy was as gentle as a setter. You know, some dogs are ladies and gentlemen, and some just aren't.

While she was still so young that weeds would throw her down and briars were impassable barriers, I used to teach her to trail by shooting a starling and dragging it around the yard, turning her loose on the scent. At seven weeks of age she was broken to my 410 gun, was trailing, and was pointing stanchly.

Her behavior with rabbits puzzled and amused me not a little. Apparently she considered them legitimate playmates, and when one fled at her approach, she would stand and gaze after it with a most woebegone expression, as if she felt that her little comrade had deserted her. On the scent of birds of all kinds she displayed a stern demeanor, as if she had discovered her true mission in life. But she wanted to romp with rabbits, and they wouldn't play the game.

It had never seemed to me necessary to take a bird dog into the wilds to train him. Most of the work can be

done right at home, and the sooner it is started the better. Of all qualities in a bird dog pup, give me nose. By careful and intelligent handling, almost anything can be done with a young bird dog that has a good nose. Affection and gentleness on the part of the trainer count far more than any harsh measures yet devised. But if your pup has an indifferent nose, he will never amount to much in the field, even with blood, looks and pedigree in his favor.

Get Dog's Confidence

Establishing oneself in a dog's confidence is the foundation of training. For example, if a man ever lures a dog to him affectionately and then beats him, that dog's trust will be shaken forever. I never whipped Patsy for anything. It took a little patience to teach her that stockings, boots and rugs are not meant to be lugged into obscure corners of the house and there chewed up; but I knew she was only a baby, and she learned quickly.

No man would knock the block off his year-old baby for pouring a cup of milk on the living room floor, but many a man will nearly kill a puppy for some playful trick or some little infraction of domestic matters. It's far better to start them very young, and treat them gently and fairly. They like square-shooters just as well as men do. A bird dog is just like a boy; let him run wild for the first part of his life, and you establish chances against his ever settling down to reliable behavior.

Patsy was two months old when the season for upland game opened in Pennsylvania. Now, you know how it is when you possess a puppy of that age at such a time. You think, "He can't possibly give me any sport this year. This child could never take it.



I STARTED up the lane, carrying my grouse dog under my arm. After awhile I set my puppy down and we began the invasion of some of my old grouse haunts.

Perhaps later I'll take him out a few times, and next year he'll be a real dog. Or I may send him to a trainer, or to some friend in the South, where the season lasts until March. But it's hardly right to take this babe into the woods."

Such thoughts might have been mine had Patsy not been so different. As the first day approached, and my activity with gun, shells, alarm clock and hints of what things a hunter likes for lunch apprised my wife of the coming of the Great Day, I made my revolutionary decision. I would not only take Patsy out, but I would take her into the big mountains after the prince of American game birds—none other than the ruffed grouse, the mountain pheasant, the partridge of New England—*Bonasa umbellus* himself.

My knowledge of Latin is about as hazy as that of the average sportsman, but I do understand that *Bonasa umbellus* means "the shadowy bull that runs away." Well, scientists may call

it running, but I call it flying, zooming, hurtling. Running is too tame a word to describe the thrilling precision of that apparently incontinent flight.

I once asked an old man in the North Carolina mountains why he never shot at a grouse on the wing. With the broad drawl peculiar to the people of those mountains, he said, "Becus when I'ze hyar, he's thar." I suppose the marvelous flight of this prince of the woodlands has afforded more just cause for American sportsmen to doubt their ability as a marksman than most other game targets put together.

On the first day of grouse season, to my wife's amusement, I usually get up at three-thirty. Often, after a long drive from home, I have sat in the car for an hour, waiting for legal shooting time. This is a beautiful time of day. Once, while thus waiting, I saw a fox chase across some open mountain meadows, with seven hounds close behind, trying to determine just how fast Reynard could run. In the dim dawn the circus came right by me; and the fox was a silver one, as black as coal—the only one I ever saw in the Pennsylvania mountains. I'll never forget its wild beauty.

First Early Start

Now, on the first day of this season, I arose at my usual heathenish hour and carried Patsy downstairs to the kitchen. It was to be her first early start! I laid her in a corner, and then busied myself with getting breakfast. Soon I saw that she had gone to sleep again. With night still huge and ominous outside, Patsy looked pathetically innocent and little, and I felt somewhat like a brute over this matter of risking her in the wilderness. But my heart was hardened, and I took her with me.

On the fifteen-mile drive up Path Valley, she lay fast asleep beside me, content to go anywhere if she could be with me. To a dog, a man is either

a god or a devil. I have a notion that if we'd act more like gods toward our dogs we'd get a lot farther with them. Admittedly, I am no authority on gods and have no personal interviews to report, but my understanding is that they are kindly and tolerant, especially toward their inferiors, whereas devils are full of anger, hatred, malice and all other kinds of rascality. Certainly every puppy begins by conceiving his master to be a god; it is that master's business never to do anything to make that dog change his mind.

Patsy Snores

I stopped my car in a lane leading from the highway into the mountains. Patsy snored contentedly. Under the circumstances I felt like the Dutchman who, seeing his beagle hound running a skunk across an open field, exclaimed, "What chanst for me to get sport today already yet?"

Soon it was time to start.

I took a drink of hot tea, then gave Patsy a snifter of the same, and we started; that is, I started up the lane, carrying my grouse dog under my arm. After awhile we got into the brush on the lower benches of the mountain. I set my puppy down, and together we began the invasion of some of my old grouse haunts—pine thickets, old orchards, laurel glens, deserted pastures where smothers of grapevine cover old stone walls, abandoned mountain fields where grow the sumac and the wild rose and the greenbriers, on the fruits of all of which grouse delight to feed.

As my preliminary training of Patsy had included encouraging her to range out, in the twilight of the dawn I was happy to see her keeping about thirty yards ahead of me, a white fairy in those dusky solitudes. A light frost was beginning to melt, making conditions ideal for Patsy to pick up a trail.

We soon came to a gentle slope, on which was a pile of dead pine brush. While thirty yards away from this my

little princess hesitated; then she drew to a dead point. A damp air was breathing from the pine tops toward her. What did she have? There are plenty of quail in these coverts, but I felt she had a grouse; and it was the first one she had ever winded. If she had hunted grouse for ten years, she could not have acted more perfectly.

Easing around until I got behind her, and scanning the country ahead to calculate just where his lordly majesty would go when flushed, I walked in carefully. Patsy did not break point, but she did look up at me, as if saying, "I've got something; I only hope it's what you want."

Passing her, I walked slowly up toward the brush pile. Three grouse hurtled out, each choosing a different direction. I have always found it a most difficult thing to make a double on grouse when several get up together. When I try it, I usually miss all of them. One of these was perceptibly larger than the other two; an

SHE TRIED TO retrieve the first grouse for me, but he was too big. Stumbling, she dragged him toward me. I knew that from that day forth, I had a grouse-minded dog.



old cock he was, and when he thundered up he headed for his mountain home. As he bore to the left, I shot.

There is always danger that a man used to shooting quail will under-shoot a grouse, for quail generally go straight away, not much higher than the gunner's head, whereas a grouse may rise twenty-five feet before straightening out for his real flight. Also, the grouse is not only rising but often going uphill, so that a combination of circumstances, creating difficult angles, has to be met.

A Bird That Doesn't Wait

I try to get the right angles and the allowance for leading and all that, but here's a bird that really does not wait for you to shoot him scientifically. With me the matter is always more or less of a haphazard affair, with some dead reckoning thrown in. If the grouse falls, I always feel more lucky than smart. Some game can be killed with geometric precision, but hardly the grouse.

By good chance, this old cock got in the way of my shot, closed his wings and pitched downward. I called Patsy. But at the sound of the gun she did not break point! No, sir; there she was planted. Walking back I patted and praised her; then I picked her up and carried her to where her first grouse lay. She tried to retrieve him for me, but he was too big. Stumbling, she dragged him toward me.

All this called for some special demonstration on my part, so I sat down, took my baby in my lap, stroked her sensitive head, and otherwise gave her to understand that she was behaving like a champion. She kept sniffing delightedly at the big bird, and I knew that from that day forth I had a grouse-minded dog.

Wandering a little higher into the hills, we came to a rivulet gushing along among mossy rocks. Here were kalmias and great thickets of green-briers under the oaks and hemlocks. Patsy, who had now traveled about a

mile, was showing signs of getting tired. Several times I stopped for a few minutes to rest her. Coming to a dense patch of laurel, I sent Patsy in for a scout. I could see the open woods on all sides of this thicket, and kept watching for my dog to come out. But no dog.

"It must be a point," I thought, sidling ahead through the dense green thicket.

All was silence. I didn't want to call for fear of flushing something out of range. I had a sudden apprehension about a rattlesnake. This is bad country for snakes, though they are rarely abroad after the first frost. Besides, if a snake strikes a dog, the dog always gives a sharp yelp, and no sound had come from Patsy. I was greatly relieved when I saw her standing with both forepaws on an old dead chestnut log. She was almost hidden by the overarching laurels.

At first I thought she had come to the log and, finding it too much for her, was waiting for me to help her over. But then I caught in her eyes that dreamy look dear to every lover of a bird dog: she was fast on point. I walked in carefully. When I got to Patsy, I stopped to stroke her head and stepped over the log. Nothing happened. Well, I thought, an old dog is often fooled, what can you expect from a youngster?

A little circling among the bushes brought me no results. I returned to Patsy.

"Lady," I said, "'scuse me, but you're a liar."

Still the elf held her stand.

"Now, ain't that sumpin'," I muttered, and began to glance around for a land turtle, the scent of which will sometimes mislead even a champion bird dog. But nary a turtle.

I picked Patsy up, and to my surprise she was as stiff as a little statue! Her whole body seemed to resent my interfering with her business. The dream light never left her eyes. I set her down, and she continued to point,



IT WAS A PERFECT SHAMBLES of logs, limbs and debris, and two feet in front of Patsy's nose, wedged under a log, was my second grouse.

only this time she took two steps to the left and seemed intent upon the log.

Just then I heard a slight movement in the dry leaves sheltered by the old chestnut log. In another second two grouse exploded from the side of the log, where they had been all along, as Patsy had so faithfully been trying to tell me. They went down the mountain. At fifty yards, as they hurtled into a smother of hemlocks, I let drive rather blindly. I could see no result of the shot except a single small feather drifting idly downward.

"If I had done half as well as you did," I told Patsy, "we'd have all we are allowed in Pennsylvania in one day."

With no faith that I had done anything, I came to the place where my

grouse, if dead, should have lain. As expected, there was no sign of it. Here was a perfect shambles of logs and limbs, the debris of a lumbering operation. I had a hard time getting along, and it was much worse for Patsy. Just as I was on the point of carrying her out of this hopeless thicket, she came to a stand. As she was under a deep tangle, I laid down my gun and literally had to crawl to get to her. Two feet in front of her nose, wedged under a log, was my grouse! When he had struck the ground, he had had life enough to dash to hiding, but he was now dead. I retrieved him and my baby champion.

"It's the limit," I said, meaning both kinds, and, picking up my gun, started back for the car.



Duck Hunting Primer

By *L. James Bashline*

DUCKS AND DUCK hunting have long been two subjects that lend themselves to beautiful paintings. Artists have been strongly drawn to the ethereal morning and evening scenes that seem to be so easily associated with this slice of the outdoors. There is a peculiar fascination here for the sportsman. In duck hunting, perhaps more than any other sport, the whole scene, the big picture, must be taken in if the hunter is to enjoy it.

Being a product of the "big woods" region of Pennsylvania, my early knowledge of ducks was quite sparse. I was familiar with the wood duck since he was occasionally found on beaver and farm ponds. And once in awhile I'd spot a mallard on the upper reaches of the Allegheny. But that was about it. Even the woodies were not around in numbers large enough to offer interesting hunting.

When I first moved to the middle Susquehanna Valley five years ago, a great stroke of luck fell upon me. I became acquainted with John Plowman, Jr. John is a part-time outdoor writer, trout fisherman, insurance salesman and, most important, duck hunter. His father and his father's friends had been hunting ducks on the Susquehanna for many years before John was born, so it was a natural development for John to hunt ducks too.

During our first few conversations I reacted in the usual stupid way by mumbling things like, "Who'd want to sit in a wet blind all morning." . . . "Not enough action in duck hunting." . . . "Wild ducks aren't edible anyway" . . . and other uncomplimentary things! I really wouldn't have blamed John if he had dissolved our acquaintanceship right there. But he didn't and we did go duck hunting and I'm much happier for it.

John and I have been on many duck

hunting adventures together since that first time, and please forgive me if I take a little bit of writer's license and roll several hunts into one for an overall impression of the sport.

It is mandatory that a duck hunter arise at an early hour. This is necessary for two reasons. He has a lot of gear to assemble and sunrise is the best possible hour to begin a hunt. In our case a two-mile boat trip is necessary in order to get to the particular island that holds John's blind. It takes 20 minutes to get there, so a 5 a.m. starting time is called for.

Coffee Helps

The dark boat ride could be a very cold, damp, unpleasant affair, but it isn't. Two vacuums of hot coffee help make the trip cheerful and a few twinkling lights along the shoreline keep the navigator well oriented as you exchange views about the day's weather. During any pre-hunt conversation there must be a lot of talk about the weather. Some wind is good . . . some rain is good . . . but then on the other hand a bright "bluebird" day was good last week, and so on. The fact of the matter is, you're going to go duck hunting no matter what the weather is like and you couldn't change it if you wanted to. But you must talk about it anyway. Over the sound of the outboard you occasionally hear a muffled quack or two which indicates some ducks are in the area. If more than two quacks are heard this means that there are a *lot* of ducks around and you'll both get your limit for sure (duck hunters have to be optimistic).

The island now appears out of the darkness and the boat is pulled ashore and unloaded. The hunters always hurry at this point to hide the boat beneath a covering of branches, reeds and dead grass. There is still an hour

remaining before shooting time, but it's necessary that you hurry, although you're not quite sure why. As the gear is picked up for lugging to the blind it will be noticed that some item is missing. It always is. If it happens to rain that morning, the missing item will be the poncho or rainsuit. If the shooting is very good later on it will be an extra box of ammunition (this incidentally is the reason all duck hunters shoot 12-gauge shotguns . . . it makes it easier to borrow shells). Of course the hour is much too late to return to the dock for the forgotten item so you'll just have to tough it out. The most important item of all is the hot coffee. You must always go back for this, if by any chance it should be forgotten, and I'll explain why later.

The gear is now deposited in the blind and the important business of laying out the decoys is next on the list. No matter how careful you were when you last picked up the decoys, the weight cords will be found in a

SOMETHING IS ALWAYS missing—poncho, shells, coffee, decoys. If it's the coffee, you go back and get it.



tangled mess. Some hasty knot untying punctuated by a few selected words of endearment gets them untangled and into the water. Some more discussion is held as to just how they should be arranged. The object is to make your spread of decoys look like a group of happily feeding ducks. There is no precise formula for this. Every duck hunter has a preferred method of spacing them. John's blind is located on the tip of an island so he usually arranges them in a crescent pattern or in two small groups, one on each side of the island.

Patching

After the decoys are out it is always discovered that a bit of patching on the blind is necessary (since we lost a little time untying the decoy cords and have to repair the blind it is becoming more apparent why some haste was necessary at the beginning). Dead marsh grass and willow branches are cut off and the holes in the blind are filled up. As you tuck in that last clump of grass a glance at the watch shows that it is legal shooting time. And just as this fact is observed, a pair of mallards whistle over the blind well within shooting range. Of course your shotguns are in the blind and unloaded, so there go two that you won't get a crack at today.

Ensnconed in the blind, the waiting game begins. When hunting from a blind, three basic kinds of shots are offered. The passing shot is presented when a duck, or several, wing at fairly high speed past your decoys just to check them out. This is the toughest kind of shot and requires some good lead calculating. Easiest shot is the incomer, if you catch him just as he's about to settle on the water. Next is the rising duck who has been fooled completely, settled in the decoys and lifts off as you stand up to shoot. There are many variations of these typical situations and one, which I'm about to describe, is my particular favorite.

Some calling has been taking place,

a few ducks have been seen at a distance, but nothing really exciting has been happening. It's time to break out the hot coffee. Now, nowhere else in this wonderful world does coffee taste as good as it does in a duck blind. So you raise that delicious steaming liquid to your lips . . . and just as you do, there comes a fat mallard drake boring right in on you at ten o'clock. And if you're going to get a shot at him you've got to do it right now! This is called "the coffee on the lap shot," or if you are close enough to your hunting companion "the coffee on your buddy shot." Occasionally this particular shot will connect; most often it does not. Incidentally, the widespread popularity of this particular type of shot is why the coffee must not be forgotten. If you insist, hot chocolate or tea could be substituted, but it's not exactly the same.

Quack and Muggle

John really puts his call to serious use now. He insists that he do the calling. Since I am a relative newcomer to the sport my quacker doesn't have the same seductive gurgle that his does. *Quack, quack, quack, quack, quack. Muggle, muggle, muggle, muggle.* That's about as close as I come to it in print. The object is to sound like a happy duck who has just stumbled on a real food bonanza. Four or five loud *quacks* of announcement and then a muffled gargling sound indicates feeding contentment. That's what it's supposed to sound like. And son-of-gun it must, because here comes a lone black duck circling down to look things over. Keep your face down, blacks are very spooky and one flash of that face or reflection from eyeglasses and he'll turn tail. He's coming in on my side and range is closing fast. About 30 yards now, rise up, swing past him and—*now!* The duck folds and drops in the center of the decoys.

You check to make sure your boots are pulled up and stand up to leave the blind and retrieve the duck. Whoops, there goes a woodie drake



JOHN PLOWMAN — part-time outdoor writer, trout fisherman, insurance salesman and, most important, duck hunter.

that had settled into your decoys without being spotted. John sees him too and swings fast. He scores and now we've got two ducks to pick up. We are both out of the blind now and have to get our ducks quickly before the current carries them away. We just nicely make the blind when here comes a half-dozen mallards. No, wait, what are they? John says, "Cans," and he's right. Quick, what are the regulations this year? Can we shoot canvasbacks or not? And if so how many? We decide not to shoot. Always the best policy when there is any doubt. (We find out later we could have shot one each.)

Back in the blind again and more hot coffee and perhaps a sandwich. You guessed it. One fast bite and one quick sip and a small scouting party of mallards starts to circle at high altitude over our spread. Now they're coming lower and their wings are set . . . here they come. Four shots and three mallards hit the water. John has made a spectacular double and I needed two shots to stop a hen that started to come right over the blind.

John has limited out and I still need one duck. The morning has progressed



A DAY'S LIMIT for a couple of gunners. Nice to take home, but only part of the big picture in duck hunting.

and we both have to earn some bread and butter this day. It's eight o'clock. We'll give the birds five more minutes before heading for home. The ducks decide not to allow us that last chance, so the gear is picked up and back to the world we come. That last sentence sounded quite casual but it really wasn't intended to be. There is just as much work involved in picking up decoys and heading for home as there was in setting up. To end a hunt is always a bit sad.

The gathering of the equipment, the dark boat ride, the placing of the decoys and the whole ball of wax is heavily laden with anticipation. When it's time to pick up and leave . . . well, the very best thing to do is talk about the next time.

Good waterfowl populations depend on one basic requirement—good water, and more of it. Along with adequate water, sensible regulations are necessary. Selective shooting of certain

species is a must, and for this reason the bag limits on ducks as well as the open seasons vary considerably from year to year. This is not done to confuse the hunter but to perpetuate the sport. A beginning duck hunter should purchase a good field identification book and study it as well as all the free waterfowl literature available from the U. S. Department of the Interior and the Pennsylvania Game Commission. Some of the less common ducks are tough, even for the expert, to identify in the half-light of morning or evening, but every waterfowl shooter should be able to spot the basic species most frequently hunted in our state. These would be the mallard, the wood duck, the blue- and green-winged teal, the black duck and the scaups. Put yourself under the wing of an experienced waterfowler and pay attention.

Big Attraction

In a big way this business of learning more about waterfowl has been one of the big attractions of duck hunting for me. As a misplaced upland shooter, I was a real waterfowl dunce a few years back. I have yet to reach the "spotter" proficiency of many shooters, but it's a great satisfaction to be able to identify most of the ducks winging past the blind.

As I mentioned earlier, some liberties were taken in talking about a particular day's shooting. Like many other shooting sports there are a lot of blank days spent in blinds. If dead ducks were the only measure of pleasure, very few of us would ever become involved. I must admit that while wild ducks, especially the blacks and mallards, are just about the greatest table treat ever, the big picture is what it's really about. You'll quickly forget the hits and the misses but if you were intended to be a duck hunter the scene you won't forget is that brace of ducks silhouetted against a misty sunrise. Once you're hooked, you'll go back again and again just to watch for it. That's how duck hunters are made.

First, Shoot a Duck . . . or a Goose

By Sylvia Bashline

Wild goose has tame goose beat a mile for flavor. The young ones are tastier, of course, but you can't always age them before you press the trigger. If you guess that the goose you're about to prepare is an old-timer, marinate him for 24 hours in an earthenware crock (after plucking) immersed in a half-gallon of dry red wine. This will add an extra \$1.50 to the cost of the goose dinner but the results will be worth it.

The puddler ducks—that is, the mallards, blacks, shovellers, woodies and teals—are best for roasting. The Duck Italienne recipe works out well with the diving ducks such as redheads, canvasbacks and scaup. The flavor of these is a trifle “duckier” and requires a seasoning help for less educated tastes.

Roast Duck

Pluck duck. Wash well, stuff with orange dressing, cover with bacon strips and truss with string. Roast in 350-degree oven around 20 to 25 minutes per pound or until done. Baste bird with pan drippings. Serve with a tart jelly, green beans and mushrooms, and a lettuce and hard-boiled egg salad with a mayonnaise dressing.

Orange Stuffing: Soften 3 cups of toasted bread cubes in $\frac{1}{2}$ cup chicken bouillon. Add 2 teaspoons grated orange peel, $\frac{3}{4}$ cup diced orange, 1 cup diced celery, $\frac{1}{4}$ cup melted butter or margarine, 1 beaten egg, $\frac{1}{2}$ teaspoon salt, dash of pepper and $\frac{1}{4}$ teaspoon poultry seasoning. Combine and stuff the duck.

Duck Italienne

If you happen to have badly shot up a duck, skin the bird, cut into bite-size pieces, sprinkle with flour, salt and pepper and saute very lightly in butter. Place pieces in a heavy skillet or Dutch oven, add an 8-ounce can tomato sauce, $\frac{1}{2}$ cup beer, 1 diced onion and $\frac{1}{2}$ teaspoon oregano. Cover and cook over low heat until the meat is tender, depending on the age of the duck—from 1 hour to 1½ hours. Serve over buttered noodles

and sprinkle with Parmesan cheese and chopped parsley. Add a side dish of green salad and a basket of hot Italian bread and you have a meal fit for a tired hunter.

Roast Goose

Sprinkle the goose with lemon juice (omit this if the goose was marinated), salt and pepper inside and out. Stuff with prepared long grain wild rice. Place in 350-degree oven and cook around 25 minutes per pound, basting with savory bouillon until done. Serve with coleslaw, green peas and French bread.

Savory Bouillon: Saute in 2 tablespoons of butter for 10 minutes, 1 cubed carrot, 1 diced onion, 1 teaspoon minced parsley, 1 bay leaf, $\frac{1}{8}$ teaspoon thyme, $\frac{1}{8}$ teaspoon ground garlic, $\frac{1}{8}$ teaspoon salt and a dash of pepper. Pour this over $\frac{1}{2}$ cup of bouillon made from $\frac{1}{2}$ cube beef and $\frac{1}{2}$ cube chicken bouillon. Simmer 15 more minutes and then use to baste goose.

Notes

1. The age of the bird will determine the cooking time; test to be sure. 2. A moist stuffing will help retain the bird's natural moisture better than a dry one.

Okay to Buy Long Guns in Adjoining States

Pennsylvanians will be permitted to purchase rifles or shotguns in adjoining states under legislation signed July 30 by Governor Raymond P. Shafer. The bill, strongly backed by sportsmen's groups, passed both the House and Senate by overwhelming margins.

Under the federal Gun Control Act of 1968, Pennsylvanians were forbidden to buy guns outside the state. The law prohibits residents of one state from purchasing such firearms in another state unless expressly permitted by law in their home state.



Roever

"Hunting Pennsylvania's Elk," Which Appeared in the January, 1969, GAME NEWS, Caused More Reader Response Than Any Other Article in Recent Years. Among the Many Interesting Letters Were the Two Following. We're Sure You'll Enjoy Them . . .

FIRST ELK IN 1923

By Clinton Heller

I READ WITH interest the narrative on hunting elk in Pennsylvania in years gone by as it appeared in the January, 1969, GAME NEWS. I too have shot elk in Pennsylvania. I believe I was the first hunter to get an elk when the season opened in 1923. I got mine at 7:10 a.m. on the first day. I also bagged an 8-point buck the same morning. Following is an account of that hunt.

I had made arrangements to hunt the first few days with several friends—O. S. Sket of Wilkes-Barre, representative for the Remington Arms Company; Joe Norman of Nanticoke; and Tom Gowan, purchasing agent of Supplee Biddle Hardware of Philadelphia.

We entered the heavily timbered ridge near Devil's Hole in the Mt. Pocono section. Ten minutes later I had shot a large bull, one of a herd of 23 that included four bulls.

I was using a Marlin 32 Special. I knew it was a little light for this kind of hunting but it was all I had at that moment, as I was in the sporting goods business at that time and had practically cleaned out my stock of rifles. I had this one rifle left, so I used it. It had never been fired and I was compelled to take a chance, and this is what occurred.

A short distance in the timber I saw a herd of elk feeding. I observed them closely, counted them, and picked the one I intended to try for. That bull was the last in line and had the best looking rack. He was standing broadside at not more than 75 yards when I fired. I felt pretty cer-

tain about that shot. I had been hunting since before the turn of the century and had bagged many deer and some bear over the years, so I expected a one-shot kill.

To my surprise he never flinched. I took very careful aim next shot, with the same results. I fired three shots at that standing bull—a perfect target. The rest of the herd had left at the first shot. After the third shot this bull started to go. I fired again and apparently missed. I fired once more and thought I missed again. He ran about 25 yards, stopped and turned about to race my way. I looked him over and decided it was no use shooting any more, although I still carried more cartridges in the magazine. I started walking toward that bull. I continued until I was but six or eight yards from him, then I halted and looked him over.

Faith Lost and Found

I had lost faith in that 32 Special after the first couple of shots. But when I stopped walking toward that bull I noticed large streams of blood running down his shoulder. I knew then that little Marlin wasn't fooling and my confidence returned a hundredfold. I stood there facing that bull, knowing I could down him instantly with a head shot, but I felt certain I need not damage the head, which I wanted for a mount. I knew it was only a matter of a little while till he would bleed out. He did not collapse but lay down easily and expired without a struggle. On examination, I found four bullet holes in the

chest that could be covered with a tea saucer. Two had passed entirely through and two did not.

I then called my hunting partners and we field-dressed the elk. I left the boys there to take care of the carcass while I went to a neighbor's home to get him and his team of horses to bring the bull out to the main Paradise Road. While on this mission I dropped an 8-point buck with one shot, ending my 1923 hunting season. On arrival at home in East Stroudsburg, we weighed the bull. Field-dressed he went 966 pounds. He was a monster.

For your information, let me say I have enjoyed a long life in Pennsylvania's fields and forests. At 78, I still hunt as usual. I got a large buck this last hunting season near Indian Swamp on State Game Lands. My

hobby is fox hunting. I do not hunt small game.

I hunt mostly alone and always still-hunt, sometimes many miles from home. My old hunting pals have all gone to their Happy Hunting Ground, but the Lord somehow seems to give me the power to keep on, for which I am very grateful.

Since a child, I have hunted and fished the entire eastern part of Pennsylvania. I don't believe there is any place in Pike, Wayne, Monroe and some parts of Lackawanna and Luzerne Counties that I am not familiar with. I will soon have to join my pals of former years. I already discern the shadows approaching. But I'll hunt as long as I can, and I have countless cherished memories. One of the most outstanding is my elk taken almost a half-century ago. . . .

OUR LAST NATIVE ELK?

By Biron E. Decker

I READ AN article in the January, 1969, issue of *GAME NEWS* which indicated that the last Pennsylvania wild elk was killed by an Indian named Jim Jacobs. I believe he was supposed to have accomplished this feat in Clarion County in 1867.

As a child, I recall clearly asking my grandfather, John D. Decker, what kind of deer rack it was that he had nailed to the outside wall of his woodshed. There were approximately two dozen deer skulls with racks attached, nailed to this same wall. The specific rack I observed was different. He told me it was an elk rack. It had palmate antlers, not round like the other antlers. They looked as though they had been flattened out while in the soft velvet stage. As I recall, the rack was very small—not more than 14 inches wide and no higher than any of the other ordinary deer

antlers. It was bleached white, weathered and otherwise much the same as many other racks showing the effects of many years of weathering.

I do not have a date for this but it was almost 60 years ago when I first recall seeing this rack. At that time, it was weathered and showed the effects of what must have been 15 or 20 years of wear. This suggests it was taken about 1890 or 1895—considerably later than the one taken by Jacobs. It was still there when I hunted deer with the Decker Gun Club in Decker Valley, near Potters Mills. My grandfather had cleared much of the land on this 750-acre spread in the Seven Mountains.

How It Happened

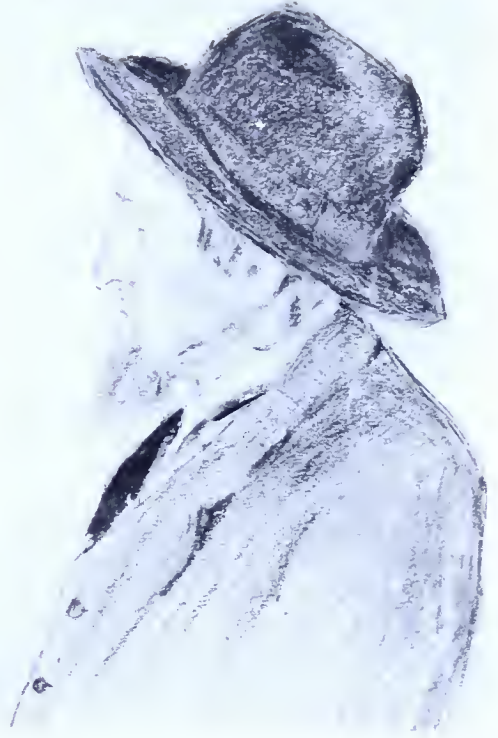
This elk met its death much the same as many deer—by being at the

wrong place at the right time. John D. and his wife were sitting on the porch peeling potatoes and watching a mountain fire nearby. Dogs chased two elk toward the house. He got his gun and shot one elk. The other one ran back into the fire, where it died.

During one of my visits to the farmstead I observed that there was a vacant space on the woodshed wall. I was told that a fellow named Henry W. Shoemaker, representing the Altoona *Mirror*, had offered my grandfather a subscription to the newspaper in return for this elk rack. This same man authored a book named *Eldorado Found*.^{*} In it, on page 44, he mentioned this last native elk shot in Pennsylvania. On page 101 he also mentions a stray elk killed in Decker Valley in 1877, but does not say who shot it. If this should be the elk shot by my grandfather, it still is a decade later than the one taken by the Indian Jim Jacobs, who also is mentioned in Shoemaker's book, but not credited with taking the last native elk.

My grandfather wanted me to have his only gun—a muzzle-loader. Prior to his death (about 1923) he gave me this gun to make sure it did not get lost along the way. It weighs 6½ pounds and has a bore measuring about seven-sixteenths of an inch in diameter. Its only identifying marks are the letters G-H in script, several partridges engraved on the sideplate, and the name Partridge which is stamped on it. He also willed a bear head to me. It was shot and wounded using a 38-40 lever action Winchester. They seem to have jammed a shell

^{*}*Eldorado Found*, by Henry W. Shoemaker, Altoona Tribune Publishing Co., Altoona, Pa. 1917.



JOHN D. DECKER, grandfather of the author of this article, who possibly shot the last native elk in Pennsylvania.

in it while trying to kill this young bear. They had to finish the job using a knife. It was my father's first gun.

I have both of the guns mentioned. I have the bear head and the information offered here. I do not have any dates because nobody at that time gave any thought to the importance of killing a deer or an elk.

P.S. I recall a time when some elk were stocked near Coburn. Most of these elk were finally killed because the farmers could not safely venture out into the fields. The bulls chased them up trees.

Every Little Leaf Adds Up

A maple or oak tree may expose as much as four acres of leaf surface to the sun.

Squirrel Exodus—1968

By Jerry Wunz, PGC Wildlife Biologist



AUTHOR'S SON proudly displays a plump gray squirrel—his first game—shot with a 22 rifle. Squirrels are one of our most popular game species.

ORDINARILY, the only people who have much to say about squirrels are squirrel hunters. Even they may not talk too much lest they accidentally reveal the location of their favorite hickory grove. But last fall squirrels were quite a conversation piece up and down the Appalachian chain from New England to Georgia because this usual denizen of the deep woods crossed highways, waterways and farmland and came to town.

Some of these bushy-tailed rodents already inhabit farms, towns and even large cities, where they have learned to compete in man's environment. But it's news when they appear there in rather large numbers, and especially when black squirrels began to show up where only grays or fox squirrels lived before. The black—really only a color phase of the gray squirrel—rarely occurs outside of its northcen-

tral Pennsylvania home. There, this melanistic phase may compose nearly half the total gray squirrel population.

What we witnessed in Pennsylvania, and many other eastern states as well, was more than the normal fall distributional shuffle of squirrels to take advantage of a food supply. It was a movement of sufficient magnitude to attract the attention of the Smithsonian Institution's Center for Short-Lived Phenomena, even though it couldn't be classed with the mass migrations of pioneer days.

These periodic squirrel "swarms" were spectacular enough to be recorded in the diaries and journals of early American travelers and naturalists. They often described these lemming-like marches, which seemed to start in no particular place and end in no particular place. The squirrels, consuming settlers' ripening crops in their path, were not even deterred from crossing wide rivers like the Ohio or Susquehanna. Because there was no evidence then, or now, that these migrants ever returned to their home range, these "migrations" should more properly be termed "emigrations."

A few impressive emigrations have been recorded as recently as 40 years ago, but apparently these were relatively small compared to those occurring before the Civil War. The obvious explanation for their decline after 1860 was the accelerated logging of prime gray squirrel habitat, the vast virgin forest that covered the eastern half of the continent. Due to the greatly reduced forest acreage caused by clearing for farming and to the inferior habitat furnished by the second growth forest that remained, it wasn't possible for the gray squirrel population to again build to mass migration levels.

Following this same reasoning, it also becomes obvious why fox squirrels have not been noted, even in pioneer times, for emigrations. The fox squirrel's river bottom or woodlot

habitat is simply not extensive enough for their numbers to attain the population heights of gray squirrels. If fox squirrels did move, the numbers involved were insufficient to attract attention.

Ordinarily, squirrels of all species are "home bodies." Trapping and tagging studies have indicated they tend to stay within a quarter-mile-diameter home range. But studies in northcentral Pennsylvania have also shown that on occasion grays and blacks are capable of traveling considerable distances. One tagged in Cameron County was recovered after migrating sixty air miles south.

Theories

For a long time, man has been pondering the cause for this extraordinary behavior by this ordinarily sedentary species. The theory most acceptable to the early settlers was that the squirrel's inborn ability to forecast severe winters at least equaled that of the groundhog. The 1968 squirrel emigration, mini though it might have been compared with those of history, was followed by the least severe of recent winters—which suggests this theory had more basis in folklore than fact.

Next is the food scarcity hypothesis. This seems reasonable, and the last three emigrations from the vast forests of northcentral Pennsylvania (1956, 1961 and 1968) occurred during years of substandard mast crops. Some of the early naturalists pointed out, however, that migrations also occurred during years of abundant forest food conditions, and that squirrels often moved to areas where food appeared less plentiful.

The findings of biologists who examined squirrels engaged in last fall's migration substantiated the observations of the early naturalists. The squirrels were full stomached, fat and apparently healthy. In addition, the 1968 migration occurred during September, as did most of those in the



Photo by Leonard Lee Rue, III

REAL REASON FOR squirrel migrations, such as the one last year, are unknown, though various theories have been suggested.

past, when squirrel food availability is usually at its peak.

The most credible reason for these migrations is simply that squirrels move when populations become uncomfortably high. But it will probably be some time before this or some other reason can be definitely established, because this phenomena is so short-lived. By the time it is learned that a migration is in progress, it is usually too late to begin collecting adequate samples or other data for study.

Just as important to game managers and biologists as why squirrels move is the eventual fate of this exodus after it reaches the "promised land." The increased squirrel density

at their new home area doesn't seem to last very long. Even before hunting can claim its harvest of this surplus, there appears to be a steady and substantial drain, considerably above the mortality normally expected with a resident squirrel population.

The most obvious, although not necessarily the most important, form of mortality is the road kill. Large numbers of squirrels are seen dead on highways during migration. There is no evidence yet that disease or parasites are any more prevalent among the transients, but it seems logical to assume that predation is greater. Migrating squirrels, unfamiliar with the terrain and safe havens of their new range, should be considerably more accident prone and vulnerable to predators than they were in their former locale.

Regardless of how mortality occurs, it is apparent that a migration is wasteful of a wildlife resource. But even more wasteful may be the overutilization of food supplies by immigrant squirrels. Most evident are the riddled cornfields. Last fall, a farmer friend whose farm abuts the mountain justifiably complained that squirrels were causing him greater crop loss than deer normally do.

Effects on Food Supplies

Less evident to the hunter, but even more important to the welfare of other forest game, are the effects upon wildlife food supplies by a squirrel overpopulation. Because of their great climbing agility, squirrels have a substantial advantage over most other game. They can literally glean a sparse mast crop from the treetops before a ripe acorn, beechnut or whatever can drop to the ground for deer, bear or turkeys.

Not only can an excessive squirrel density have a profound effect upon the food supply for other wildlife, but it can also be devastating to the squirrel's own welfare. This is because fecundity of mammals, partic-

ularly rodents, is closely linked to nutrition. Without adequate food, squirrel reproduction may drop drastically. There is an old squirrel cliché that goes something like this: "He can eat himself out of a family as well as house and home."

It follows, then, that something should be done to reduce this inter- and intra-specific food competition and to stop the waste that results when squirrels are forced to emigrate. It is doubtful if much can be done once the high tide of a squirrel population has begun to ebb through emigration, increased natural mortality or decreased reproduction. But controls before the squirrel population reaches this condition may be feasible.

To accomplish this end and at the same time provide greater recreational opportunity for hunters, the Game Commission has liberalized squirrel hunting in recent years. In spite of seasons opening in mid-October and extending for two weeks after the Christmas holiday, squirrels still remain our most under-harvested game over most of the state. Further extension of hunting into the winter months when squirrels are usually inactive will not increase the harvest appreciably. Besides, the inroads into

food supplies already will have occurred.

If the objective is to attain a more equitable harvest and at the same time save the winter food for breeding squirrels and other wildlife, then it eventually may be necessary to consider hunting squirrels even earlier than the present liberalized season permits.

After the fall, 1968, squirrel migration, which was probably the largest of recent years, we wonder if these might become more spectacular in the future. This is a possibility as our present forests mature and future forests develop from abandoned farmland.

It appears that squirrels, and squirrel hunters too, have a rather secure future. Through the liberalized hunting seasons, squirrels are beginning to give cottontails a run for first place in the numbers harvested race. And with a little more help from us he might try a little harder to become number one.

As a squirrel hunter, completely hooked on the sporting and table qualities of these succulent-fleshed aerialists, I have only one regret—that our gray squirrels don't grow as big as bears.

Forestry Association Names Executive Director

The Pennsylvania Forestry Association recently named Douglas G. Roehrs of West Chester as its new executive director. Roehrs was formerly employed as an editor of the U. S. Forest Service's Northeastern Forest Experiment Station, and has served on a part-time basis as editor or co-editor of "Pennsylvania Forests" and the "PFA Newsletter."

The Pennsylvania Forestry Association, a nonprofit organization founded in 1886, serves as a public forum to promote citizen education in the management and use of forest land and water resources for the benefit of the people. In years past the association took a leading part in establishing the Pennsylvania Department of Forests and Waters and the School of Forest Resources at Pennsylvania State University.

Syrinx Singers

Birds produce vocal sounds with the syrinx, a voice box structure in the throat.



Beagles, Bows 'n' Bunnies

By Malcolm Lindahl

I SWUNG MY car into a narrow lane leading to an abandoned farmstead. It was a mild overcast morning and the air was still damp from the light autumn rain of the night before. In the car with me were my frequent bow hunting companions, Glen Bean and Charlie Brown, both avid bow hunters who know that cottontails offer a lot of good action.

"Nothing like warm, wet weather to bring the bunnies above ground," Glen remarked as we rumbled down the bumpy lane.

"You said it," I agreed, "and last night's rain should make good scenting for the hounds, too."

We had brought two pretty fair young beagles along. Charlie had his solid field champion beagle, Fairside Ned. Ned is a big, aggressive searcher and he uses a fast chop mouth when tonguing the line. I brought my own beagle, Bouncer, a steady performer with a short baritone bawl. The two run well together and the music of their contrasting voices makes a lively tune on a hot rabbit trail.

We came to the end of the lane and I pulled my car to a stop on a rise next to one of the old farm buildings. We could look out across a quarter-mile stretch of pasture to the large grown-over area beyond that we intended to hunt. Tangled masses of low golden hardhack shrubs formed natural tunnels and hideaways for an abundant cottontail crop, while stands of alders, sumacs and gray birch provided taller cover. These brushy spots were separated by more open spaces of scattered white pines, young red cedars, low field growth and outcroppings of shale. In addition, a long hill adjacent to the south side of the area was well seeded to aspen saplings.

I set the hounds free while Glen

and Charlie got out our 45-pound wood and fiber glass bows. As we paused to brace them and slip on our bow quivers, Ned and Bouncer unlimbered with a bit of self-indulgent racing and roguish cavorting. We set out across the expanse of pasture at a fast walk with the hounds casting out well ahead, anxious to get into the thick of things.

Action wasn't long in coming. No sooner had we entered the grown-over area than Ned announced with frantic yelps that he had jumped a bunny. In seconds Bouncer "barked in" and the two hounds moved out in noisy pursuit as the cottontail lit out for the far reaches of the thick patch. We scrambled to take up stands.

In the lead, Glen hollered back, "I'm heading for the ridge in case the rabbit decides to cross over to the other alders."

"Good," I called out. "We'll stay in here."

Runway Watching

I placed myself in a little open spot where a couple of rabbit runways merged. Charlie took up a similar position farther into the cover. For a time the cottontail kept circling at the far end of the alder growth. It began to look as if our two beagles wouldn't shake him loose and bring him back toward us, but we decided to hold our positions awhile. Minutes later we were rewarded when the music of Bouncer and Ned grew louder as the bunny circled back.

With bow ready, I tensed in anticipation. In a moment I caught a fleeting glimpse of the cottontail through the heavy, brushy growth. Making a turn too far in front for me to shoot, he angled on by toward Charlie. A moment later I heard the twang of Charlie's bowstring. It was closely fol-



lowed by the unmistakable thud of a blunt arrow on target. We like to use blunts when cottontailing because of the great shocking power of the flat heads.

"Got 'im!" Charlie bellowed.

I came up just as he was retrieving the rabbit and his blunt arrow. Bouncer and Ned arrived on the scene shortly after and nosed the bunny once or twice to make sure it wasn't going anywhere.

"Chalk one up," I complimented as we moved on.

"Nothing spectacular," he rejoined. "A slow hopper about forty feet out."

Alders Good Cover

Since Glen was already on the ridge, we decided to hit a large stand of alders that lay just beyond. We worked our way along the edge of the thicket into which numerous growths of low golden hardhack had intruded. A thick wiry shrub that grows about hip high, it provides

cottontail cover of the first order.

Kicking a gnarled clump of the stuff, Glen dislodged a cottontail from his hidden form and the bunny shot into the heavy cover. Glen held off shooting in compliance with our "no jump shooting agreement." (We like to give the hounds a chance to earn their salt on each rabbit.) With a nose full of hot scent, Ned and Bouncer quickly disappeared into the alders. I plowed in and stationed myself in a little open spot about a hundred feet inside. Glen and Charlie took up positions along the outside perimeter of the thicket.

The cottontail led the hounds a merry chase as he circled and crisscrossed the thick cover. Twice he left the dull black alders and skirted a hundred feet or so along the edge only to reenter in a vain attempt to shake his pursuers. No dice, though once he fooled the dogs for awhile. Then Bouncer let go with a throaty bawl to announce the show was still

on. After a few more sporadic yelps, the two dogs unravelled the check, straightened out the line, and began running hot again.

This time the cottontail came toward my sector of the alders. I glimpsed his approach and remained motionless. When he drew alongside, I brought my arrow to full draw. The rabbit caught my movement and froze in crouched uncertainty. I released the arrow. Threading the alders perfectly, the feathered blunt smacked him solidly.

"Number two's in the bag!" I shouted to let Charlie and Glen know they could relax.

Fail to Score

On the way out of the alders the hounds jumped another bunny but he holed up without showing himself. We moved into another thick patch and the energetic hounds produced another rabbit on the run. However, though we all managed to get shots off at this one, we failed to score.

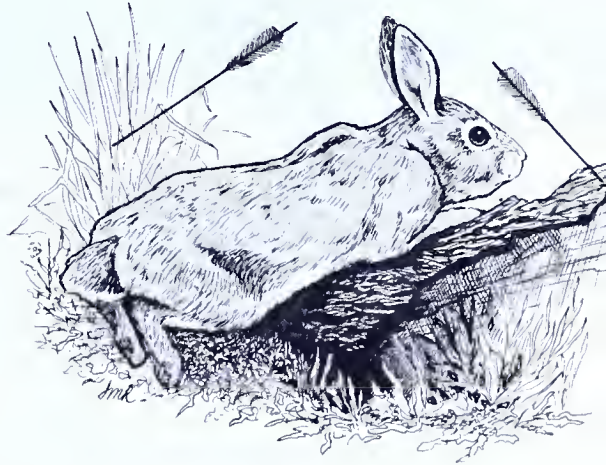
We soon kicked out a fresh cottontail. We spread out along the outside edge of the cover and waited. During the chase, another edgy bunny bolted from his form and somehow got caught up in the running. As it turned out, the two hounds diverged onto separate rabbit trails. There followed a wild double race inside the rather limited cover as the two cottontails sought to avoid the eager young beagles.

In desperation the bunny in front of Ned finally chose to break out across the open for new cover in order to shake his fired-up foe. However, Glen had played this one perfectly. Standing atop an elevated outcrop of shale, he put the bunny out of action with a beautiful swinging shot as the rabbit zoomed by at full tilt. I watched the whole thing from my stand not too far down the line, and I must say a prettier shot I've yet to see.

By the time Glen had bagged his

bunny, the dogs were really running strong. We continued to hunt the thick patches and in the next couple hours flushed another eight or ten rabbits. Unfortunately, none of us could manage to score, though we all had ample opportunity. We finally decided to wind up our hunt with a brief shot at the aspen-covered side hill bordering the area's south side.

Here our luck returned. After a couple unsuccessful hole-ups, Glen and I, standing side by side, simul-



GLEN AND I crossed arrows in front and back of a running bunny. That same rabbit finally fell to Charlie's bow.

taneously crossed arrows in front and back of a running bunny out in front of us. Had we scored, it would have meant a double hit on the same rabbit. That selfsame rabbit finally fell to Charlie's bow when the dogs pushed him right to Charlie and the cottontail tried unsuccessfully to turn around and run. His shot made four bunnies in the bag and, by our standards, a very good day.

Later, as we headed back across the pasture to our car, we discussed the hunt and ribbed each other over some of the dozen or more misses we'd had. It was all in good fun because none of us professes to be an accomplished archer. We just like to have fun, and lots of bunnies, plus beagles and bows, add up to just that.



Waterfowl Hunters Will Benefit From This Recent Saskatchewan Addition to Ducks Unlimited's Acreages . . .

The Mellon-Pennsylvania Waterfowl Project

By Ken McCreary

Executive Secretary, Ducks Unlimited

A NOTHER SERIES of high-yield Canadian "duck factories" has officially gone into production. Impressive ceremonies on June 25 marked the formal dedication of Ducks Unlimited's Mellon-Pennsylvania Project, a top-quality complex of waterfowl production marshes, located some 40 miles southeast of Saskatoon, Saskatchewan.

The wetlands complex consists of five marshland units which total 6476 acres of prime waterfowl habitat and encompass 129 miles of productive shoreline. The important series of marshes is within the borders of the Saskatoon Southeast Water Supply System, a vast network of canals and reservoirs built as a source of industrial and agricultural water by the Saskatchewan Water Supply Board. This is the first time that a government has specifically allotted irrigation water for waterfowl.

The Mellon-Pennsylvania Ducks Unlimited Project was dedicated by General and Mrs. Richard K. Mellon of Pittsburgh. The development of these vital wetlands was made possible by a grant to Ducks Unlimited of \$200,000 from the Richard King Mellon Charitable Trusts in December, 1968.

Participating with General and Mrs. Mellon in the impressive ceremonies unveiling the dedication cairn and plaque were Richard Prosser Mellon and Seward Prosser Mellon of Pittsburgh; F. R. Etchen, Jr., Keystone State DU Chairman; and James Waddell of the Pennsylvania DU Committee.

Representing Ducks Unlimited, Inc., at the dedication were Board Chairman Charles B. Allen of Baltimore, and Executive Vice-President Dale E. Whitesell, of Chicago. Ducks Unlimited (Canada) representatives included President Lorne M. Cameron, Winnipeg; Executive Committee Chairman Dr. Kenneth Martin, Regina; and Managing Director Elsworth Bole, Winnipeg.

Participating in the colorful ceremonies on behalf of the Canadian Government was Gordon Staines, Canadian Wildlife Service, Edmonton. The Province of Saskatchewan was represented by The Honorable Allen R. Guy, Minister of Public Works.

In keynoting the dedication, Mr. Allen expressed the deep gratitude of Ducks Unlimited to General and Mrs. Mellon and to the Richard King Mellon Charitable Trusts for making such

a tremendous contribution to waterfowl conservation, and to DU's unique success. DU (Canada) President Lorne Cameron told the assembled group: "Such outstanding support as we are recognizing today will play a vital role in our 'master plan for tomorrow,' in which we accelerate our control or reservation program to add another 4,500,000 acres of waterfowl habitat within the next decade, before it is lost forever."

The Mellon-Pennsylvania Project is composed of five units known individually as the Blucher Marshes (2863 acres), Blackstrap Marshes (365 acres), Indi Lake (806 acres), Clavet South Marshes (1864 acres), and Bradwell South Marshes (578 acres). Each unit is made up of a series of small sloughs, marshes, creeks, ditches and channels which are scattered over the area. Ducks Unlimited's work on the project will be spread over several years and calls for linking up the various sloughs and marshes by a system of ditches and control dams.

The waterfowl potential of the area is excellent, with both food and cover vegetation plentiful and attractive to both dabbling and diving ducks. Besides offering good nesting habitat, the units will be invaluable as salvage areas for nearby non-permanent sloughs and potholes. Several of the units offer excellent opportunities for conducting studies of marsh management techniques to improve and increase production potentials. While the dominant nesting species of the Mellon-Pennsylvania Project will be dabblers, such as mallard, pintail, blue-winged teal, gadwall and shoveler, there will also be some redhead, canvasback and bluebill.

With the dedication ceremonies complete, this addition to the continent's "duck factories" joins the 791 other active Ducks Unlimited projects in Canada, to contribute its share to the numbers of ducks and geese which will be streaming down the flyways this autumn, becoming an important part of America's waterfowl heritage.

GENERAL AND MRS. RICHARD K. MELLON at the plaque commemorating the dedication of the Mellon-Pennsylvania Ducks Unlimited Project.





*There Are Right Ways and Wrong Ways of Doing Most Everything—
Even to Look for Deer. Take Some Tips From a Guy Who's
Made All the Mistakes Possible—*

On Deer Watch

By Bill Walsh

ALL OF NATURE conspires against a fellow on "deer watch." Yet, in Pennsylvania at least, it is the hunting method that most often brings home the venison—indicating that those of us who want to decorate our autos with deer had better fortify ourselves against the natural, petty annoyances that make it so difficult to sit or stand still in one place.

Grandpappy once told me, "I can't leave you much money but I am going to give you three tips on deer hunting I want you to remember as long as you live: 1. Don't move. 2. Don't MOVE. 3. DON'T MOVE!"

Let's consider some tips that might help bring home a buck in a month or two.

The term "still hunting" suggests a kind of lazy, easygoing day in the woods. 'Tain't so! Proper maintenance of a deer watch requires the patience of a mother mallard with a half dozen restless ducklings, for more than that many distractions will divert your attention, throw you off guard, and spoil the silent, motionless sanctity of your stand.

Keep-Warm Tricks

Take a simple item like cold. Now, I don't mean the kind of cold that makes you cough and sneeze. I mean the kind that often descends on the Keystone State in deer season and plunges the thermometer so low you think the mercury is going to disappear right out of the bottom of the glass. The kind of bitter, biting cold that can make standing on a deer watch more punishment than pleasure. There are a number of keep-warm tricks that can help you stick it out.

Avoid getting "steamed up" on the way to your stand. Assuming that you have dressed stoutly and warmly in anticipation of a long vigil, you are doubtless overdressed for walking. Allow yourself extra time to reach your position. Rest now and then along the way. The kind of overheating you experience on a forced march dissipates quickly and is likely to leave you chilled and damp.

Hand Warmers

A scarf, snug at your throat, will keep body heat from escaping at your jacket collar. Keep it in your pocket until you get where you're going—then put it on. If you use hand warmers in a breast pocket or one of those belts against your kidneys, keep them in an outside pocket, too, until you take up watch.

If there is dry snow, don't clear it away from your feet. Even in insulated boots, your feet will be warmer with snow around them—especially if it's deep. Grouse can't read thermometers but they do comprehend the insulating qualities of snow. Studies show that when grouse "hole up" in under-snow retreats, it may be 40° below outside but 30° *above* where the grouse are. When your feet do get chilled, warm them by wiggling your toes, *not* by stomping them on the ground. Approaching deer may see or hear the stomping.

Resist the temptation to flail your arms about in the traditional way when the upper part of your body gets cold. Only the Navajo rain dance attracts more attention in the woods. Slowly rolling the shoulders will gen-

erate heat—and numbed fingers can be brought back to life by wiggling them or holding them tight beneath the armpits. You can keep your fingers warmer, even in mittens or gloves, by not touching the metal parts of your rifle.

If you *must* get up and move around to restore heat and circulation, don't leave your deer stand if it's a good one. Walk circles around it and quickly return to it when warmth comes creeping back. Too many hunters have returned to "first" stations to discover deer tracks in the bootprints they made when leaving it. Of course, that will warm you up a bit in a way a feller finds hard to swallow.

Physical condition is important to warmth. So is the kind of food you eat while at deer camp. Throw an extra pat or two of butter on those pancakes in the morning. Carry a chocolate bar for munching. The calories help warm you.

The absence of restrictive clothing combined with woods noises—as everything from mice to men scatter the leaves—tend to make rubbernecks of us all. Of course, there are times when shirt-sleeve weather in deer season renders a hunter altogether too motionless—as the fresh air, warm sunshine, early rising and unaccustomed exertion adds up to a midmorning nap.

Sleeping Nimrods

Stories of deer passing by a hunter's stand while the nimrod is fast asleep are more than just yarns. Such events occur every year in which our deer season contains a day or two of warmer-than-usual weather. On several occasions I have succumbed to the drowsiness of the day—usually waking with a start to some real or fancied sound, wondering how long I had slept and who or what had passed by while I slumbered. Once I opened my eyes to find a large doe furtively inspecting me . . . probably attracted by the plain and fancy snoring my wife accuses me of. The deer melted

into the woods so quickly that had it been a buck I could not have recovered my wits, composure or equilibrium fast enough for the job at hand.

Short of getting plenty of rest the night before, we have no suggestions as to how to combat this violation of the deer stand regimen. Maybe it's not such a crime, anyway. Maybe such a nap in the woods, away from the hurry and scurry of the workaday world, is only another of the many rewards to which a deer hunter is entitled.

Make Movement Slow

A quick turn of the head to investigate some new sound is often the giveaway that sends a deer bounding off in the other direction. Often it's a deer that would have come in. With a not-too-large tree at one's back it is possible to keep visual tabs on an area larger than you'd at first suppose.

Should you wish to check out a sound behind you, remember that a man can visually patrol almost 310 degrees of a circle. The trick is to make the movement of your head so doggone slow that it is imperceptible. If it's agonizingly slow to you . . . you're probably doing it right. Wearing a ski mask that covers the whiteness of your face helps, too, as does not shaving.

"Many a slip twixt cup and lip" applies to getting the deer rifle to the shoulder. It is often this most necessary of motions that spooks a deer. I remember an antlerless deer season when I came home without the venison because my trigger squeezing finger was in my side pocket instead of across the trigger guard. In getting it where it belonged—too quickly—the fat doe that was within one good leap of cover when I spotted her took full advantage of my unpreparedness and is, for all I know, still running.

The deer watch that is taken up in connection with an organized drive has some good manners aspect to it, too. For one thing, stay where you've

been stationed until certain the drive is over. Many a buck owes his life to an impatient watcher who failed to allow for any of several dozen exigencies that could delay or slow the drivers. This is especially true of a silent drive.

It's the main reason I like the stick-hammering, lung-bursting full-throated roar of an old-fashioned push 'em ahead of you drive. You *know* when it starts. You can follow its progress. And as far as I'm concerned, the ruckus adds to the excitement. As one grows older, though, he'll often find it exercise enough to course the stubborn hillsides without adding all that yelling to the exertion.

Extra Minutes

Barring interference from other hunters who may be unaware that a drive is going on, it is not likely that a slight delay in the starting time of the drive will much matter. It is more important not to start it early. Just as drivers might be delayed in getting to starting points, the standers should be allowed a period of grace. A seasoned captain will give both sides an extra five minutes before beginning.

Stop where you are if you hear the drive begin. If you have not reached your stand, take up the best stand you can where you happen to be. Scurrying to your appointed spot could mean ruining the efforts of the other participants. Deer are unpredictable. The beginning of a drive may put them out sooner than you think and out of beds you never suspected existed, perhaps nearer to you than originally supposed.

Freeze!

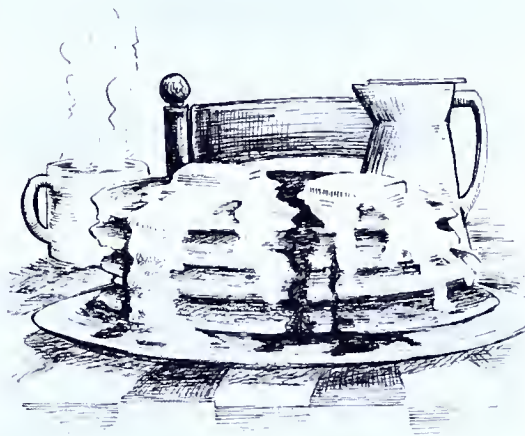
"When you hear me holler," the captain of our most successful drives used to say, "make like an icicle—freeze!"

"What if I'm standing in a wide open field?" a newcomer to the group once asked.

"Get down on your knees and make

like a rock!" he was told. "On a properly run deer drive, only two things should be moving: the drivers and the deer."

To the man on an "independent" stand, silence is just as golden as mo-



A SUBSTANTIAL BREAKFAST before taking to the deer woods will help keep you warm and comfortable. Extra butter and syrup will add calories to warm you when the weather is bitter.

tionlessness. While there are true stories to the contrary, due to unusual circumstances, deer are just not prone to approach hunters who listen to radios, shout to passing hunters, crinkle lunch papers or cough every three minutes.

You can sum up a deer's defenses quickly by saying: if there's anything a deer can do better than seein' it's hearing; or anything he can do better than hearin', it's smelling. So pick your stand in a spot where the wind won't blow your after-shave aroma in the direction you expect a whitetail to materialize.

But whether you wait 'em out by yourself or have 'em driven into you by hunting buddies, a deer watch is more "watch" than "deer." The hunter who does it right is the rocklike individual who won't twitch, won't itch, won't sneeze, won't wheeze—and who shoots straight when the time comes.



Conse

MORE THAN 300 speakers from Maryland, Virginia, Ohio and the province of Ontario were in July touring various western states to discuss intensive conservation work in the West. Finding the key to this solution to environmental problems. The tour included areas, flood control projects and water projects were welcomed by Governor Roy McAllister. The tour will appear in our Conservation News. Governor Raymond J. Broderick, who is in charge of the coordination noted by the tour, said that the agencies and interested parties are a major factor in making Pennsylvania a better place to live and protecting our



GOVERNOR RAYMOND P
dents of various interested
Wildlife Federation; John T
Brantner, West Virginia W
Atlantic Environmental Cou
sylvania Federation of Spor





PANIA'S Joint Legisla-
. Bill Wilt, chairman;
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n Tour

islaters and state officials
 ersey, West Virginia, Dela-
 rio spent two days in late
 ania regions where exten-
 e. They were hopeful of
 s in combating major en-
 ip mining and reclamation
 and recreation areas. They
 l P. Shafer (whose remarks
 on) and Lieutenant Gover-
 ne visitors commented that
 vationists, legislators, state
 e local level was the big
 er in reclaiming despoiled
 oors.

By Thad Bukowski

shown here with the presi-
 s: Donald Frush, Maryland
 Wildlife Federation; David
 ration; Ted Fearnow, Mid-
 s; and Joseph Craig, Penn-
 s.

Photo by Wyndle Watson



PGC EXECUTIVE DIRECTOR Glenn Bow-
 ers, right, answered many questions about
 the Pymatuning area. Shown is spillway area
 of Sanctuary Lake.



VISITING CONSERVATIONIST views ducks
 from bus window, above, during tour of the
 famed waterfowl area. History and develop-
 ment of the region were explained to the
 group of more than 300 legislators and
 officials.





FIELD NOTES



Doing His Bit

UNION COUNTY—John Maurer, who lives on Fourth Street in Lewisburg, has trapped under my supervision more than 100 gray squirrels which frequented his yard over the past two years. The squirrels are taken in a Havahart wire trap and then released in areas open to hunting—District Game Protector J. S. Shuler, Lewisburg.



She'll Get Used to It

POTTER COUNTY—Shortly after my new wife arrived at our house in Galeton, she made a trip to the market to buy food. When she returned I was engrossed in some report work. After a few moments I heard her scream. I ran into the kitchen to find her clutching the frozen succotash and orange juice and staring into the open freezer. After a quick look I burst out laughing. Looking back at her was one gray fox and a weasel which I intended to get mounted and had stored there in the meantime.—District Game Protector D. W. Jenkins, Galeton.

Has Trouble Understanding

ERIE COUNTY—A beaver started to plug a road culvert, almost in Union City, below their already established dam. Each morning I have been removing material placed in front of the culvert, and for several mornings a large beaver watched me from the breast of the large dam, only about 15 feet away. One morning my springer spaniel stood on the edge of the dam and the beaver swam up until they almost touched noses. The beaver showed his displeasure by swimming around a short distance away from me and slapping the water loudly with his tail. One of these mornings I will not be surprised if he tries to forcibly evict me from his domain.—District Game Protector E. M. Simpson, Union City.

First Clue

LUZERNE COUNTY—I returned from a relaxing trip to Canada at 9 p.m. on July 6 and at 11:30 p.m. received the first of four calls about a crippled skunk stuck in a fence at 17th and North Church Streets in Hazleton. I went to answer the complaint. No one was to be found to render any assistance but several housewives had all kinds of questions. The skunk by now had crawled between two houses and was under some rocks. One lady said to me after I ended the skunk's misery, "You must really like your job; I bet you're getting double time for this." I answered, "No Ma'am. Would you believe I'm on vacation?" The lady held the bag while I deposited the skunk, and then I left, very aware that the vacation was all over.—District Game Protector R. W. Nolf, Conyngham.

Deer Fight Back

DAUPHIN COUNTY—The problem of vehicle-deer collisions on our highway is well known, but recently a new twist was added when 12-year-old Bob Zimmerman, Jr., of Hershey area was riding his bike down the highway. You guessed it. Four deer suddenly crossed the road in front of him and Bob hit one. The youngster was knocked unconscious by the collision and suffered numerous cuts and bruises. His bicycle also was damaged. The deer apparently wasn't, for it quickly disappeared. — District Game Protector H. H. Thrush, Harrisburg.

More Turkeys

CLARION AND JEFFERSON COUNTIES—Young turkeys are showing up in good numbers on the Game Lands. On State Game Lands 54 in Jefferson County, three hens with 20 poults were observed, and approximately two miles away two hens with 23 poults were seen. A week later on State Game Lands 74 in Clarion County, five hens with 31 poults were seen. Looks like there is a good season in store.—Land Manager J. M. Lavery, Clarion.

For One Thing, They Gotta Gobble . . .

WASHINGTON COUNTY — "How far does a deputy's duty go?" That's a question Angelo Borne, one of my deputies, is jokingly asking himself. One morning he received a call about 3 o'clock saying that a young turkey had been put in the caller's car trunk as a practical joke. Angelo hurried to the scene. He arrived at 3:30 a.m., only to discover that the young turkey was actually a young chicken. One complainant soon discovered the difference between a young turkey and a young chicken! — District Game Protector F. D. King, Canonsburg.

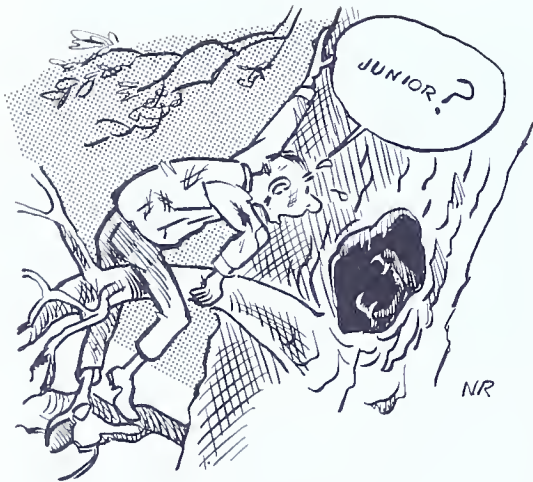
Where They Are

ELK COUNTY—While on patrol on State Game Lands 25 in Jones Township with Deputies John and Jim Dowie, five sets of twin fawns were sighted at different locations in the Middle Fork and South Fork areas. Several broods of young turkeys have been sighted this month, with the number of young varying from four to 12.—District Game Protector H. D. Harshbarger, Kersey.



Busman's Holiday

CRAWFORD COUNTY—While on vacation in Texas recently, I looked up the local conservation officer and was promptly invited to spend a day patrolling with him and a fellow officer. I accepted. Since the duties of Texas officers include both fish and game law enforcement, and it was the day after July 4, this patrol was on the water, Lake Whitney to be exact. I found that people are the same all over. We encountered illegal operation of motor boats, fishing without a license, etc. Three men, minus licenses but possessing fishing rods complete with lures and casting away as we approached them, explained that they were practicing "Shill-O." Needless to say, they still got a ticket. Total number of arrests for the day was 23.—District Game Protector W. E. Lee, Titusville.



But Where Is Junior?

BUCKS COUNTY — One of three baby raccoons we are raising wandered away recently and failed to return. The entire family was fearful that some tragedy would overtake the youngster so we all went into the woods in search. Along a small stream I noticed the small, rounded ears of a raccoon high in a crotch of an ancient white ash. It simply had to be the lost one, and immediately I assaulted the venerable tree. After a great deal of perspiration and a few abrasions I eased my head over the branch and gazed into those sparkling black eyes. Then came the sudden realization that this raccoon had not been a baby for many years and that one of us was about 50 feet out of his element. Taking little note of his next move, I hastily retreated from my lofty perch and ambitions. — District Game Protector W. J. Lockett, Perkasio.

Seek and Ye Shall Find

JEFFERSON COUNTY — In the July, 1969, issue of *GAME NEWS* I read Snyder County District Game Protector Dale's Field Note. Found answer to same in the October, 1968, issue. Refer to Field Note of Crawford County District Game Protector Miller. — District Game Protector H. G. Stankewich, Valier.

That's Possible

ERIE AND CRAWFORD COUNTIES — The other morning Charles Zimmers of Saegertown came downstairs before daylight. He heard a noise and something ran across the floor. Thinking it was a mouse, he called to his wife to bring a broom, as it had run under the china closet. Upon further investigation with the kitchen light on, they found a rabbit. The rabbit ran all over the couch and under it. After turning over both couch and davenport they finally chased the rabbit outside. They still can't figure how it got in as they have a very nice modern country home. Perhaps this was a young rabbit in training to be an Easter Bunny. — Land Manager J. Hyde, Townville.



Thoughtful Intruder

BERKS COUNTY — Deputy Dan Holtman answered a call to remove an opossum from a cottage in Spring Township. The doors had been blown open during a severe storm two days previously and it was assumed that the animal had entered at this time. The animal had made its home in the shower stall, so the dirt was easily removed. If cleanliness is next to godliness it was trying its best to be a good opossum. — District Game Protector J. A. Leiendecker, Reading.

Idea of the Month

CRAWFORD COUNTY — The biggest complaint of the summer was the litterbug. Too bad there isn't a good spray to get rid of him like we have for all the other kinds of bugs.—District Game Protector J. R. Miller, Meadville.

All in the Day's Work

BUTLER AND LAWRENCE COUNTIES—Several men on the Food and Cover Corps crew, while preparing a buckwheat field on State Game Lands 95, Butler County, heard a peculiar noise near the field. Investigating, they discovered a woodchuck staggering around blindly with its head caught inside a tin can. They caught the woodchuck and released it from the death trap. The woodchuck sat dazed for a moment, then glanced up at them as if to say "Thank you, fellows" and went merrily on its way.—Land Manager W. E. Portzline, Slippery Rock.

Just Start It and Stand Back!

LYCOMING COUNTY—It took a lot of planning and we were a long time getting started on a 10-acre waterfowl impoundment on State Game Lands 252, but construction began on July 16 and things really started happening. The next day 15 mallard ducklings were making themselves at home in a small pool of water that had formed near the center of the dam and were gorging themselves on the many worms and insects uncovered by the large earthmoving machines being used in the construction. Later that same afternoon, two Game Commission men from our Harrisburg office pulled into the area with a canoe strapped to the roof of their car. We like to see progress, but certainly didn't expect to see so much in one day.—Land Manager D. E. Watson, Williamsport.



Word Gets Around

McKEAN COUNTY—Mr. Howard of Mt. Jewett is an undertaker and he would like to know who told the cats of that town where he lives. In three days he has found two mice and one dead bird on his porch.—District Game Protector D. A. McDowell, Jr., Smethport.

New Problem

GREENE COUNTY — Many different complaints are received in this line of work, and you get to the point that you think no one can complain about something original. But someone always does. This month one man asked if I had any robin traps. It seems the robins are taking the worms from his yard, and he wants to keep them there so he can use them for fishing.—District Game Protector L. V. Haines, Waynesburg.

But Outside of That . . .

BUTLER COUNTY—I received a call from a lady who complained that quail were in such large numbers around her property that they were becoming destructive. I had to see this. I got my bird dog and went to her home. She pointed out the "quail" to me. They were pigeons.—District Game Protector Jay Swigart, Butler.

We've Heard of High Flyers, But . . .

ELK COUNTY—When new tires for the trucks in my land management group are needed, they are ordered through Harrisburg to be shipped to a local pickup point. Six tires were ordered in this manner, two winter tread and four summer tread. A call was received that they were in Ridgeway and two of my men were told to pick them up. I was at the equipment shed when they arrived. One look and I exclaimed, "Where in the world did you get those tires?" I was informed that they had questioned the man and were told they had the right ones, but couldn't think of what they were to be used on. What they had were six 345-lb. airplane tires which should have gone to an Air Force base in New York.—Land Manager R. J. Rea, Wilcox.



Count Your Blessings

MERCER COUNTY—We think we have troubles with road-killed deer, but Deputy Terry McClland of Sandy Lake tells me that on his recent vacation to our Western States he saw a road-killed moose which required the work of three men and one crane to load. I'll do my best to remember that the next time I'm called upon to pick up a deer.—District Game Protector B. K. Ray, Sheakleyville.

When a Fella Needs a Friend

SCHUYLKILL COUNTY — I recently found that even the hours spent typing monthly reports can sometimes be filled with unexpected excitement. While at a typewriter I was called upon to fight a flood. To my chagrin, the flood was taking place in my own backyard. A nearby brook overflowed its banks and flooded the area near our home. For several hours it was touch and go as to whether we would become inundated with water. With the help of some very fine friends we turned the tide.—District Game Protector P. G. Piechoski, Tamaqua.

But What Did They Call You?

YORK COUNTY — Recently while on my way home, I stopped at the appliance shop to see if my TV was repaired. While waiting for the manager to check on it, two young lads came in and asked me how much transistor radio batteries were. Then a woman with two children entered. She politely informed me they were just looking. Hearing comments like that, the owner wanted to know if I wanted a part-time job.—District Game Protector R. L. Yeakel, Red Lion.

He Was in Full Uniform, Too

SNYDER COUNTY — A farmer friend, while visiting us one evening, told us that the previous night he and his wife had been driving home when a deer jumped in front of his car and was killed. Game Protector Kermit Dale happened to be passing by and saw the accident happen. The farmer's wife, Joanne, being excited, got out of the car while her husband was talking to DGP Dale and asked, "Dick, don't you think you should call the Game Protector?" Dick, being a good Dutchman, said, "Woman, who do you think I am talking to?" I am afraid Joanne will never live this down.—Land Manager I. L. Dodd, Beavertown.



CONSERVATION NEWS



Governor Speaks on Environmental Problems

Remarks by
Governor Raymond P. Shafer
at a Dinner of Conservationists
on Tour of Western Pennsylvania

IT IS ESPECIALLY symbolic that this tour of some of Pennsylvania's contributions to the national conservation effort should come in the very week that man first set foot on the moon.

For, above all else, man's first visit to another planet proved, almost beyond belief, the fantastic results obtainable through the cooperative efforts of the genius that is the American people through their government, science and industry.

Yet, even as I watched our Apollo astronauts as they explored the forbidding, desolate landscape revealed on television, I couldn't help but be reminded of these words from that great English physician and philosopher, Havelock Ellis:

"The sun, moon and stars would have disappeared long ago had they been within reach of predatory human hands."

I was reminded, too, that at about the time America first set forth to conquer the moon, we in Pennsylvania were beginning a similar cooperative effort to reach an even more important goal—the reclamation of all our wasted natural resources right here on earth.

Recall, if you will, the kind of Pennsylvania in which we lived a few years ago.

Since time began, mankind has seemed almost determined to destroy all of the abundant natural resources on which all of us must depend for life itself. The result was we lived with a deadly menace loose in our land. A menace called waste . . . waste of our land . . . waste of our water . . . waste of our air . . . yes, waste even of ourselves. And it is strange irony, indeed, that even today each of us helps it grow.

Each year, Pennsylvanians are pumping six million tons of automobile pollution into our air. Add to that the tons of sulphur dioxide, fly ash dust and gases from our mighty industries and we know at once that



Governor Raymond P. Shafer

we are still not breathing the pure air we have a right to breathe. We helped the menace grow when we did nothing to stop the flow of one billion, four hundred and fifty million gallons of acid mine water into our rivers and streams each day. Add to that the millions of gallons of other industrial wastes, raw sewage, pesticides and detergents we still dump into our waterways and we know that some of us still are not drinking water as pure as we have a right to drink.

We also helped this monster grow when we refused to plan for intelligent disposal of the millions of tons of solid waste collected each day from garbage cans, junked automobiles, factories. And we helped it grow when we refused to deal with the urban sprawl that still chews up the beauty of our open spaces and adds to pollution of our most lived-in metropolitan areas. Those are only a few of the most agonizing facts we faced in those days—and still must face

today if we want to have a healthy tomorrow.

Yet today, thanks to the cooperative genius of ardent conservationists, intelligent legislators, dedicated scientists and enlightened industry, Pennsylvania has made a strong beginning towards that new tomorrow.

As you have seen today, and will see tomorrow, Pennsylvania has made such an excellent start in both the conservation of our remaining natural resources and the reclamation of those already wasted that we are indeed well into what I call our Golden Age of Conservation.

Pennsylvania now has, or soon will have:

- The nation's first statewide air monitoring network designed to accurately forecast and prevent death-dealing fogs like that which killed 20 people in the little town of Donora.

- The nation's first statewide water pollution monitoring network to help tighten enforcement of Pennsylvania's model clean streams law by constantly updating our water quality inventory covering nearly 50,000 miles of streams.

- The nation's first Solid Waste Management Act under which a comprehensive, statewide solid waste management program is now being developed to protect our citizens from health hazards caused by improper handling and disposal.

- The nation's first research center devoted entirely to harnessing the enormous potential of science and industry to develop, not sophisticated machinery to conquer space, but new methods of solving the problems of air, water and land pollution.

This new Center for the Study of State Science Policy, to be established at Penn State with the cooperation of the federal government, will be dedicated to helping all states use the same science and technology which produced the historic week just completed to solving the problems of earth.

Through it, for example, will be made available to all coal-producing states the new methods and techniques recently developed in Pennsylvania to:

- Fight air pollution by extinguishing burning culm banks and underground mine fires.

- Fight water pollution either by treating acid mine drainage or eliminating its source through restoration of abandoned strip mines.

- Prevent surface subsidence through new methods of "back-filling" deep mines.

Because of research already done by both government and industry in Pennsylvania,

all of these new techniques are now available. Where, a few years ago, there was no known economical method of treating acid mine waters, today industry itself has already constructed more than 200 treatment plants throughout the state to prevent future pollution from active mines. And the state itself currently is building others capable of purifying millions of gallons now flowing daily from mines long abandoned.

Where there once were no laws requiring the backfilling of strip mines, an even more healthy coal mining industry is today restoring 10,000 acres of once-ruined land annually. And the state itself currently is eliminating abandoned strip mines as sources of pollution from acid mine drainage. Where, a short time ago, little effort was made to prevent air pollution from coal-burning power plants, you will see tomorrow evidence that industry itself is now building new facilities which no longer spew sulphur dioxide and fly ash into the air.

Yes, we in Pennsylvania now have the know-how to get the job done. What is needed today is a national action program to use the technology now available, and to develop new techniques for tomorrow. The rape of our land, the waste of our water, the pollution of our air can no longer be left solely to those of you so devoted to the cause of conservation. I would hope that, in the first flush of success at man's conquest of outer space, this nation pause long enough to reassess its priorities.

While space exploration obviously should be continued, I would hope that we now turn our American government, science and industry genius even more strongly and sharply toward solution of the environmental problems of earth. For, in the national interest, it is the quality of our total environment that we must now consider—the purity of the air we breathe, the water we drink, the beauty of our rivers, forests, farms and cities. All these are basic to our happiness, to our future, to our well-being, to life itself.

If we are to continue as a great nation, we must now, with your help and the help and support of those you represent, take the lead in protecting and restoring to our communities and countryside the inherent beauty and serenity and quality that is America. Only then can we successfully prove wrong the prophecy of Albert Schweitzer who once said:

"Man has lost the capacity to foresee and forestall; he will end by destroying the earth."

Game Harvests Still High in Pennsylvania

Official game harvest figures compiled by the Pennsylvania Game Commission show that sportsmen in the Commonwealth are continuing to take wildlife at the near-record pace established during the past few years.

Only two species, ruffed grouse and black bear, showed a statistically significant decrease during 1968 seasons. All other game species continued to be harvested at a rate comparable to the preceding year.

Here are the official 1968 game harvests: deer, 141,874; bears, 218; rabbits, 2,960,000; squirrels, 2,445,000; ring-necked pheasants, 920,000; ruffed grouse, 285,000; wild turkeys, 18,000; quail, 24,000; woodcock, 65,000; snowshoe rabbits, 4,000; raccoons, 151,000; rails, gallinules and coots, 11,000; wild ducks, 67,000; wild geese, 10,000; woodchucks, 333,000; doves, 191,000.

Altogether, the total is well over 7,000,000 pieces of game.

The big game figures are based on individual reports filed by hunters; the figures on raccoons, rails, gallinules, coots, ducks, geese, woodchucks and doves are based on estimates by field

officers of the Game Commission; and the figures on rabbits, squirrels, turkeys, grouse, pheasants, woodcock, quail and snowshoe rabbits are calculated minimum harvests.

The Game Commission's present method of determining small game harvest figures was inaugurated in a 1965 program whereby a cross section of the hunting public was surveyed concerning game harvested and areas hunted.

This information was then projected to arrive at estimated totals for the state for the year. The possible extent of error, determined statistically, was then subtracted from the estimated harvest total to arrive at a calculated minimum harvest.

In reality, Pennsylvania hunters undoubtedly harvest considerably more game than the official figures indicate, because the small game calculation is based on the minimum harvest figures. Then too, Game Commission studies show that only about 80 percent of last year's successful deer hunters reported their kill, so the actual deer harvest is much greater.

Fishing and Boating in Pennsylvania

Manuscripts describing fishing or boating experiences, or short items dealing with these subjects, often are submitted to GAME NEWS. In Pennsylvania, the Game and Fish Commissions are separate and each has its own magazine. GAME NEWS uses material on all outdoor subjects except fishing and boating; these are covered in PENNSYLVANIA ANGLER, the Fish Commission's monthly magazine. Stories related to fishing should be submitted to Tom Egger, Editor, PENNSYLVANIA ANGLER, P. O. Box 1673, Harrisburg, Pa. 17120. All readers interested in the latest information on Pennsylvania's fishing and boating, as well as outstanding articles and stories on these subjects, are urged to subscribe to PENNSYLVANIA ANGLER.

DGP Weston Top Handgunner

In the Game Commission's annual revolver shooting competition, District Game Protector Ned Weston of Boyers, Butler County, was top marksman with a score of 281-11X out of a possible 300. He edged out DGP Hans Goedeke of Mount Pocono, Monroe County, who turned in a 281-6X score, to make this the closest contest in many years.

25-Year Club

Pennsylvania Game Commission personnel have compiled an enviable record among public and conservation agencies for longevity of service. Few organizations in any area of endeavor can boast of so many dedicated employees. The most recent PGC employee to complete 25 years of service is District Game Protector Sam Weigel of Arendtsville.



Samuel K. Weigel
*D. G. P.
Southcentral Division*

PGC Training Conference at Penn State

Up-to-date practices in game management were presented to approximately 270 Pennsylvania Game Commission personnel at a four-day in-service training conference at the Pennsylvania State University in July. It was the first such conference since 1966.

Of special interest was the talk on interviewing and interrogating suspected violators, by W. G. O'Neal, chief investigator for North Carolina's Department of Insurance, and a discussion of the phenomenon of predation, by Dr. Douglass H. Pimlott, of the University of Toronto.

Another highlight of the training session was a presentation on public relations by John T. Hanna of the Virginia Highway Safety Division.

Other nationally recognized experts in the areas of law enforcement, public relations, management problems, firearms legislation, hunter safety, animal diseases and wildlife biology presented training programs designed to acquaint the Game Commission personnel with modern approaches to new and future game management problems.

It is expected that such conferences will be conducted at regular intervals.

\$200,000 in Game Fund for Local Governmental Units

More than \$200,000 will be distributed to county treasurers and political subdivisions by the Pennsylvania Game Commission in 1969. The payments to local units will be made in lieu of taxes for State Game Lands located throughout the Commonwealth. There are more than one million acres of Game Lands in Pennsylvania.

The Game Commission provides a total of 20 cents for each acre of Game Lands to local governmental units. Of the 20 cents per acre, eight cents is forwarded to the county, another eight cents is presented to the local school district, and the remaining four cents goes to the township board of road supervisors.

Funds for the payments are made available through the sale of Pennsylvania hunting licenses. There is at least one Game Lands tract in each county in the state except in Delaware and Philadelphia Counties.

1969 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

Species	Open Seasons		Daily Bag Limits	Maximum Possession Limits	Shooting Hours
	First Day	Last Day			
DOVES	Sept. 1	Nov. 8	12	24	12 o'clock noon, prevailing time, to sunset.
†RAILS (Sora and Virginia)	Sept. 1	Nov. 8	25††	25††	One-half hour before sunrise to sunset (except on November 1 when the opening hour will be 9 a.m. EST).
GALLINULES	Sept. 1	Nov. 8	15	30	
WILSON'S or JACKSNIPES	Oct. 1	Nov. 19	8	16	
WOODCOCK	Oct. 18	Dec. 20	5	10	
†NO OPEN SEASON on other species of Rails.					
††Singly or in the aggregate of species.					
DUCKS	Oct. 11	Dec. 6	3*	6*	One-half hour before sunrise to sunset in all areas of the state other than Controlled Shooting Sections of Pymatuning Waterfowl Area. Hours for Controlled Shooting Sections at Pymatuning: one-half hour before sunrise to 12 noon (prevailing time) on Monday, Wednesday, Friday and Saturday beginning October 11. EXCEPTION—No hunting anywhere in Pennsylvania before 9 a.m. EST on November 1.
COOTS	Oct. 11	Dec. 6	10	20	
MERGANSERS	Oct. 11	Dec. 6	5**	10**	
GEESE	Oct. 4***	Dec. 19	3***	6	
BRANT	Oct. 4***	Dec. 12	6	6	
EXCEPTIONS:					
* Daily bag limit of 3 ducks may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 1 black duck. Maximum possession limit may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 2 black ducks.					
** Bonus scoup: restricted to waters of Lake Erie and Presque Isle Bay, October 11-December 6, daily bag limit of 2 and possession limit of 4 in addition to above duck daily bag and possession limits.					
*** Not more than 1 hooded merganser daily, or 2 in possession.					
**** Crawford and Erie Counties, including Pymatuning Waterfowl Area—October 11.					
***** Daily bag limit in Crawford County—1 Canada goose.					

ON THE OPENING DAY OF SMALL GAME SEASON, SATURDAY, NOVEMBER 1, 1969, IT IS UNLAWFUL TO HUNT ANY WILD BIRD OR WILD ANIMAL, INCLUDING MIGRATORY GAME, ANYWHERE IN PENNSYLVANIA PRIOR TO 9 A.M., EST.
(NO OPEN SEASON—SNOW GEESE AND SWANS. NO SUNDAY HUNTING.)

MIGRATORY BIRD HUNTING METHODS—Permitted: Dogs; artificial decoys; longbow and arrow; shotgun not larger than 10 gauge and incapable of holding more than 3 shells; bird calls except recorded or electrically amplified calls or sounds or recorded or electrically amplified imitations of bird calls or sounds; blinds; floating craft (except sinkbox) including those propelled by motor, sail and wind, or both, when the motor of the craft has been completely shut off and/or the sails furled, as the case may be, its progress therefrom has ceased, and it is drifting, beached, moored, resting at anchor or is being propelled by paddle, oars or pole, or if the craft is used solely as a means of picking up dead or injured birds. Prohibited: Trap, snare, net, crossbow, rifle, pistol, swivel gun or machinegun; shotguns capable of holding more than three shells unless gun is plugged to 3-shot capacity so that plug cannot be removed without disassembling gun; sinkbox, motor-driven conveyance, motor vehicle or aircraft; shooting from motorboat or craft under power; livestock used as a blind or means of concealment; live decoys; recorded or electrically amplified bird calls or sounds or imitations thereof; motor-driven land, water or air conveyance or sailboat used for the purpose of or resulting in concentrating, driving, rallying or stirring up migratory birds or waterfowl; salt or bait.
FEDERAL STAMP FOR MIGRATORY BIRD HUNTING—No person who has attained the age of 16 years shall take any migratory waterfowl (brant, ducks, geese) unless at the time of such taking he has on his person an unexpired Federal Migratory Bird Hunting Stamp (duck stamp), validated by his signature written across the face of the stamp in ink. A person who has not reached his 16th birthday does not have to have a stamp. This stamp is not required to hunt doves, rails, gallinules, woodcock, or Wilson's or Jacksnipe. Federal Migratory Bird Stamp available at U. S. Post Offices.
NOTE: One fully feathered wing or the head must remain attached to each migratory bird (except doves) while being transported.

Antlerless Deer License Procedures Are Outlined

COUNTY TREASURERS throughout the state began accepting applications for antlerless deer licenses on September 15. They will start issuing the licenses on Monday, November 10. Dates for the 1969 antlerless season are December 15 and 16.

Each county treasurer decides how applications are to be received and how licenses are to be issued for his own county. The treasurers operate within general rules agreed to by the County Treasurers Association, the Pennsylvania Revenue Department and the Pennsylvania Game Commission.

The cost of an antlerless deer license is \$1.15, and may be issued only to a holder of a current valid resident, nonresident or alien hunting license. If the antlerless license is to be mailed, the remittance should include an additional twelve cents for postage.

Nonresidents may not be issued an antlerless deer license this year before November 15.

Each application for an antlerless deer license must show the 1969-70 hunting license number. Some county treasurers require that envelopes containing applications be marked "Ant-

lerless Deer Applications" or "Doe Applications," as well as the number of applications in the envelopes.

Application forms are available from any license issuing agent, county treasurer or the Pennsylvania Game Commission.

An antlerless deer license is valid only in the county in which it is issued. Only county treasurers are authorized to issue antlerless licenses.

Each county's quota of antlerless licenses was established by the Game Commission in June. Statewide, 379,000 antlerless licenses were authorized for this year by the Game Commission. The quota is 103,550 less than last year's record authorization.

Pennsylvania residents who are members of the armed forces on full-time active duty or who have been honorably discharged within 60 days of the date of application may be issued antlerless licenses by county treasurers even though the county's quota of licenses has been exhausted. These licenses are available only to individuals who could not anticipate military leave or discharge and file applications for antlerless licenses during the regular filing period.

County treasurers do not issue free antlerless licenses to anyone, servicemen included.

The Game Commission has urged all county treasurers to promptly return applications to the senders after the county's allocation of antlerless licenses is exhausted. This will permit hunters to send applications to other counties where antlerless licenses are still available.

The following table summarizes the procedures established by the various county treasurers for receiving applications and issuing antlerless deer licenses for 1969. The number in parentheses indicates the maximum number of applications that will be accepted from any one individual, either by mail or in person.



PGC Photo by Ralph Cady

How to File Application for 1969 Antlerless Deer Licenses

APPLICATIONS ACCEPTED BY MAIL OR IN PERSON

*(Licenses may be picked up in person or
will be mailed)*

Allegheny	(6)
Beaver	(6)
Bedford	(5)
Chester	(6)
Delaware	(6)

IN PERSON ONLY

(Licenses will be mailed)

Clinton	(1)
Elk	(6)
Mercer	(4)
Susquehanna	(6)
Venango	(3)

(All licenses will be mailed)

Adams	(6)
Cambria	(6)
Cameron	(6)
Carbon	(2)
Crawford	(6)
Erie	(3)
Fayette	(4)
Fulton	(4)
Huntingdon	(6)
Jefferson	(6)
Juniata	(6)
Lancaster	(6)
Lawrence	(6)
Lehigh	(6)
Lycoming	(6)
McKean	(6)
Mifflin	(6)
Montgomery	(6)
Northumberland	(1)
Sullivan	(6)
Tioga	(6)
Union	(6)
Warren	(6)
Washington	(6)
Wayne	(6)
Wyoming	(6)
York	(4)

APPLICATIONS ACCEPTED BY MAIL ONLY

Armstrong	(6)
Berks	(1)
Blair	(1)
Bradford	(6)
Bucks	(6)
†Butler	(4)
Centre	(6)
*Clarion	(2)
Clearfield	(6)
†Columbia	(6)
Cumberland	(1)
†Dauphin	(6)
Forest	(6)
Franklin	(2)
Greene	(6)
Indiana	(1)
Lackawanna	(6)
Lebanon	(6)
Luzerne	(6)
Monroe	(1)
Montour	(6)
Northampton	(1)
Perry	(2)
Pike	(6)
Potter	(6)
Schuylkill	(4)
§Snyder	(1)
Somerset	(6)
Westmoreland	(2)

†All envelopes must be marked "Doe Applications" or "Antlerless Deer Applications" and number of applications enclosed.

*Return address *must* be on the outside of the envelope or application will be voided.

†500 applications over the counter only; 3,500 by mail only.

§Over counter from Snyder County residents. Mail *only* from out of county residents.

Applications will be accepted *only* on and after Monday, September 15, 1969.

All permits will be mailed (or picked up) on and after Monday, November 10, 1969.

Numbers in parentheses indicate number of applications accepted from one party by County Treasurer. Compiled by the County Treasurers Association.

Note: When sending in application, please be sure to include return postage!





By NED SMITH

October--the bounteous month for the outdoorsman who knows where to look. Wild mushrooms are abundant, pawpaws are ripening, and there are nuts of every sort . . . except, unfortunately, native chestnuts . . .

EVERY TIME I happen upon the gray, gaunt skeleton of a giant native chestnut tree in the mountains, I feel cheated. I came so close to seeing them alive. As a boy I saw the old patriarchs near Cummings' barn, and those in Stoneroads' pasture, while the bark still clung to their four-foot boles and spreading limbs. And scores of straight, clean trees on Berry's Mountain looked almost willing to leaf out again.

But they were dead. Oh, the sprouts that sprung from their indomitable roots and stumps sometimes managed to stay alive long enough to give me a few chestnuts to try. At least I know the sweet flavor of native chestnuts, and I'm grateful for that. But it won't take the place of those frosty mornings my parents talked about, when everyone took bag or pail and hiked to where the chestnuts lay thickest on the leaf-strewn ground.

Perhaps it was the sting of being short-changed that spurred me to make up the loss. Instead of being merely a chestnut harvester I became an all-round boy forager, a hunter of things edible in the field, fencerow, stream, and mountain.

Nuts were my specialty. Before I

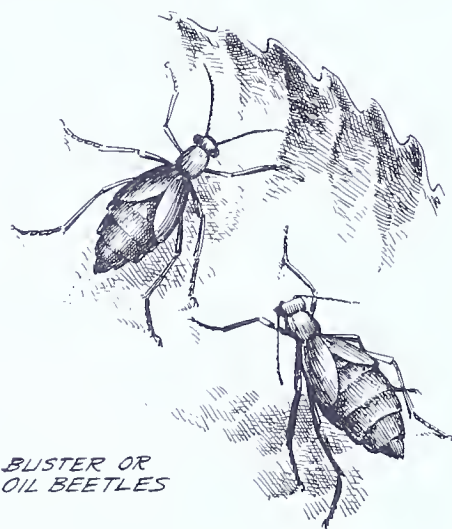
had finished fifth grade I could produce any kind of nut you'd care to mention — black walnuts, shellbarks, butternuts, hazelnuts and beechnuts when they bore. I even knew of a few English walnut trees around town that dropped some of their nuts outside the fence.

I also made a mental note of the juiciest volunteer apples and sweet cherries, plus such native fruits as persimmons, pawpaws, and fox grapes. And the older I got, the more involved I became.

Today I'm an incurable forager. Everything from frog legs to fiddleheads, mushrooms to Mayapples, has been introduced to my stomach in one form or another. And not only have I had a lot of fun sampling nature's bounty, but I've also discovered that many other outdoorsmen are enjoying this whacky hobby, too. Graphic proof is the Pennsylvania publisher who lists a half-dozen or so books on survival, foraging, and edible wild plants. Another foraging book made the best-seller list a few years ago.

October is a bounteous month for the gatherer of wild victuals. Wild mushrooms are usually abundant now, bullfrogs are still available, pawpaws

are ripening nicely, and ground-nuts are as big as they'll get. And, of course, this is the time for nuts of every sort. If I could just figure out a better way to get butternuts out of the shell I might even be able to forget about native chestnuts, and how they didn't wait for me.



BLISTER OR
OIL BEETLES

October 1—Late this afternoon I made myself comfortable on a fallen log beneath some hemlocks near Penn's Creek, intending to watch the woods and nearby deer trails until dark. Before long, I spied some movement between the distant trees and soon made out a doe and three fawns strolling my way. Sliding quietly to the ground behind the log I made myself as small as possible, and three of the deer were soon passing within fifteen feet of my hiding place, feeding as they went.

Suddenly the doe seemed aware that one fawn was lagging behind. She turned her head in his direction and called with a single note that was little more than a murmur. Had I not been so close I'd never have heard it. But the fawn heard. Without hesitation he threw up his head and walked briskly to where she was waiting.

I have heard this faint murmur before, always uttered by a doe to her fawn. I doubt that human ears could pick it up at a range of more than twenty-five feet or so, but apparently

it suffices for conversation where deer are concerned.

October 5—Quite a few buck rubs are in evidence on Berry's Mountain. Bucks prefer certain kinds of trees for rubbing, and in this area red maples, aspens, and pines receive the most attention.

This afternoon I came upon the site of a recent battle between two bucks on the mountaintop below the Lenker's Station road. The immediate vicinity was a maze of tracks and a space about the size of a 9 x 12 rug was completely churned up by the digging, slipping, sharply cloven hoofs. A four-inch tree to one side apparently had gotten in their way, for in several places close to the ground sharp gashes and punctures had laid the sapwood bare.

October 14—Most of the fossils we find in Pennsylvania are of two general groups. One consists of shallow sea creatures—clams and other mollusks, sea lilies, bryozoans, trilobites, etc. The other comprises coal-forming plants such as scale trees, seed ferns, calamites and others.

This afternoon I explored an exposed road cut in Perry County and unearthed something different—the fossil remains of fish that lived here some 400 million years ago. Had I not known what to look for I'd have never recognized them. To begin with, they were unlike any fish we know today, and to make identification even more puzzling, only certain parts of the fossil fish can be found.

The fish is known to paleontologists as an Ostracoderm, a primitive type which had no jaws and no skeleton. The head was protected by armor-like bony plates, and it is these plates that are found in abundance at this site. Imprints of scales are also present. All recognizable parts are marked with a distinctive "fingerprint" pattern of fine lines and swirls.

Unlike most aquatic fossils, the *Americaspis*, as this particular Ostra-

coderm has been named, is believed to have inhabited freshwater lakes and streams, rather than the shallow seas that covered much of Pennsylvania at one time or another in eons past.

October 22—The witch hazel bushes along Shock's Run are turning fall into spring with their haze of yellow flowers. At the same time they are belatedly scattering last year's seeds. Added to the almost constant patter of seeds striking the ground or glancing off branches and trees was the deceptively loud rustling of chipmunks gathering them up. Near the far end of the thicket a grouse whined in annoyance and flicked her tail a time or two before roaring up the mountainside. Grouse are fond of witch hazel flowers; perhaps she was picking up seeds as well.

Witch hazel seeds are expelled with considerable force. The bony capsules split as they ripen, each exposing a pair of hard, slippery black seeds. While opening wider they shrink in diameter, exerting tremendous pressure upon their occupants, until the latter suddenly squirt from their chambers like apple seeds from between the fingers.

As an experiment I once set up a group of ripe seed capsules at one end of a room, aiming them at the opposite wall. During the night they were all expelled, and a third of them bounced off the wall—a distance of 19 feet!

October 24—We made a quick inspection of a harvested cornfield today, hoping to turn up some Indian relics. Other than a few chips of yellow jasper we found no sign of Indian occupancy, but I did spot a pair of strangely beautiful beetles clinging numbly to a weed. They were unlike anything I had ever seen, so I tapped them into a plastic bag intended for arrowheads and took them home for identification.

Each was about an inch in length, with a tiny thorax and robust, pointed abdomen. No hind wings were pres-

ent, but the chitinous forewings were stubby and overlapped at their bases—unusual for a beetle. Most striking, however, was the color—a beautiful shade of deep bluish-green with the subtle sheen of fine silk.

The book called my beetle *Meloe angusticollis*, a so-called blister beetle. Before modern medicine a European relative, the Spanish fly, was ground up to make a blistering ointment for counter-irritant purposes.

October 25—Several mushrooms of the *Lepiotas* genus decided to grow in that part of the barn Mr. Weaver has converted into a garage. Nothing too unusual about that, except that those fragile-looking fungi heaved through a layer of macadam to make their debut.

October 28—I heard the clatter long before I had crossed the cornfield. It seemed to come from the creek that



AMERICAN
CHESTNUTS
IN THE BURR

curved beneath the hemlocks at the foot of the steep, cliff-like mountainside, and drawing closer I realized it was the sound of a large bird splashing in the water. Only a wild duck could make a racket like that, I guessed.

Reaching the creek bank I raised my head ever so slowly, but the splashing stopped. A half-minute later a wood duck drake paddled across the creek and stood in an inch-deep eddy

to preen. It was an incredibly beautiful picture—this gem of a creature in his church-window plumage, reflected in the quiet pool hemmed in by moss-covered boulders. To the rear the rocky, fern bedecked cliff formed a nearly vertical backdrop, and the entire scene was framed in hemlock boughs. As I watched five more drakes and hens appeared from somewhere upstream, feeding and loafing along from eddy to eddy.



For a moment I thought one hen would blow it. She apparently spotted me there and her complaining *wheeps* warned the others. But although the other hens joined her in muted protest they soon forgot about me when I didn't move. For awhile I watched them clamber over mossy ledges and swim through quiet pools, as they made their way downstream. Then they were gone.

October 29—Tom admits to slowing down a bit these last few years, but he also admits to a continuing passion for grouse hunting. So, when we took to the woods after lunch I picked a fairly level patch of good cover that I

felt sure held some birds. Tom walked the old woods road while I threaded through the windfalls, grapevines, and brush still thickly hung with colorful leaves.

Within minutes I heard the fussing of a grouse and saw one moving through the heavy cover ahead of me. I called to Tom to be ready. But the bird had other ideas. When he flushed he flew straight ahead, avoiding the area where Tom waited.

A little farther on another clattered out of the grapevines. I couldn't shoot; it was heading in Tom's direction. I shouted a warning, but apparently the bird skimmed out of sight behind him and made a clean getaway.

We turned east along a trail, then south toward the pines, flushing another unseen bird at the edge of the choppings. Too many leaves still clinging to the trees.

Our luck turned when we were halfway back to the car. I heard the bird's first step and caught sight of him as he scrambled over a windfall and into the air. The load of 7½s brought down a shower of foliage that obscured the results, but we found him lying breast-down on the leafy ground.

We made a short swing through the dense whips across the road from the car and surprised ourselves by jumping three grouse in short order. Only one offered a shot—if you'd call it that—and we both drew a blank.

Back at the car I wished aloud that Tom might have bagged himself a grouse, but he assured me it didn't matter.

"If I can hear a few flushes I know there are still some birds around for the next week's hunt. That's good enough for me," he said. And he wasn't kidding. I don't remember the day when Tom had to bag something to enjoy himself.

Pennsylvania's 1915 Grouse Season

In 1915, the first year for which records are available, Pennsylvania had a six-week grouse season with limits of 5 per day, 20 per week and 30 per season. The harvest was approximately 186,000.



TYPES OF USEFUL BOOTS include light all-rubber, medium-weight insulated rubber, nylon-topped rubber with liner, all-leather, and all-rubber with felt liner. Weather and terrain determine best choice.

Cold Weather Footgear

By Les Rountree

OUTDOORSMEN are becoming much more sophisticated than they used to be about most items of apparel and other gear. Quilted and insulated underwear are commonplace. So are down-filled jackets and sleeping bags. Catalytic heaters for inside the tent, portable handwarmers for outside and even battery warmed coveralls are available. Most winter campers and hunters take pretty good care of their anatomy except for one part—the feet!

The annual coming of cold weather (and it's not far away now) will find many campers folding up their tents for another year. For them, winter is a time to dream about next season's safaris. There are some, of course, who

winter camp just for the fun and challenge, but there is another very special group who makes camping a big part of their hunting season.

These hunter campers for the most part enjoy camping but they're out there for a practical reason. They can start the hunt the second they walk out of their tent or camper. More time can be spent in the field and that usually means increased hunter success. It also means more exposure, which means getting cold.

In my experience the part that gets colder than anything else is the foot. There are good reasons for this. The feet are farther away from the heart than any other portion of the body. It simply takes longer for the heart to



CLOSE-UP OF nylon-topped rubber boot which Rountree believes will prove very practical. Heavy felt inner boot is removable for drying.

pump blood to that region. In addition there is very little fatty tissue in the foot . . . just skin and bone. It's up to the foot owner to provide some sort of artificial insulation if he's going to comfortably enjoy his chosen winter sport. Just how he chooses to do that is a most personal thing. Let's look at the options.

First we have leather. Boots for sportsmen have been manufactured out of just about every kind of tanned animal hide imaginable. Some of these exotic leathers have worked out well and some have not. To a large degree the selection of leathers depends on the kind of service you'll be looking for.

A buttery soft boot could be just the ticket for cornfield hunting but would last about two weeks among briars and rocks. Steep hillsides full of natural rock gardens and hidden holes require a harder boot that will help prevent ankle twisting. The sit and wait kind of hunter does not need the rugged boot that the hillside stomper does—but he needs a warmer

one. This is even more true if the hunter happens to be a camper. He'll be doing a lot of shuffling when he returns to camp. Not serious walking mind you but just sort of sliding here and there while he prepares dinner, washes dishes, cleans his rifle or any one of hundred things that campers do without moving far. The soft leather insulated boot may be his best choice.

Leather for Walkers

If he happens to be a real walker he will be much better off buying ordinary leather hunting shoes. Insulated boots do make your feet perspire when you are pounding out the miles. Then when you stop and the moisture trapped between the leather and your socks starts to chill . . . blue feet again. The hard walker with the uninsulated shoes would be well advised to have some sort of "after hunt" footgear along. A pair of felt or sheepskin lined boots would be perfect in either frame or canvas camp. If your leather shoes are damp when you come in (and they probably will be even on a cold day) stuff a handful of newspaper or crumpled paper towels into the toe. They'll be dry by morning. But don't stuff your socks into your boots before climbing into the sack! The leather will be clammy in the morning and so will the socks.

An extremely popular type of footgear here in Pennsylvania is the combination rubber bottom-leather top pac. For the outdoorsman who likes a completely waterproof bottom combined with the flexibility of leather around his calf, this boot is hard to beat. Several manufacturers offer this item in plain and insulated models, so again we have the choice for the walker as opposed to the sitter. The foot will perspire more in rubber than it will in leather. This makes a slightly heavier sock necessary.

In rubber bottom boots the fit is a bit more critical than with an all leather job. Rubber bottoms are molded and therefore won't conform to the shape of the foot. If the extra

space is not adequately filled with foot and stocking the slightest bit of sloppiness will quickly form a blister. And I'm sure a lot of you know how easily a sore foot can upset any trip. After some service it is usually found that the stitching that joins the bottom to the top will cause some outside moisture leakage. This is easily solved by spreading some rubber patching cement along the seams. It dries quickly, remains flexible and will last for an ordinary winter's use.

The rubber/leather pac is an excellent all around choice for the winter outdoorsman. If the user can swing the price of two pairs, an insulated and an uninsulated pair, he's equipped for just about anything. There's one special use that the pac does not work out well for. That's terrain that requires a lot of sidehill walking. Rubber does not cling to the foot well enough to offer the support necessary for this kind of traveling. It's okay for short trips but very tiring for long periods of hillside slipping and sliding. An all leather boot with deep-tread sole is definitely better for this kind of situation.

Rubber for Water

For a completely waterproof boot nothing beats all rubber footgear. There are several hundred different models on the market and a dozen new ones seem to appear every year. All rubber outdoor shoes can be had in just about every kind of configuration possible. There are pullovers with calf laces, lace to toes, two to five buckles, strap closures and, of course, the old "arctics" that can be bought to go over most any kind of footgear. Duck hunters, beaver trappers and fishermen can now buy waders and hip boots in insulated models which happen to be very comfortable if you spend a lot of time slogging around in cold water.

The biggest drawback with all rubber boots is the same as with the rubber pacs — perspiration. Everyone perspires, but some persons far more



LONGTIME FAVORITE with deer hunters, tradition has it that L. L. Bean invented the leather-topped rubber boot. Get 'em big for extra socks.

than others. It isn't that a certain individual works harder, it's just that body chemistry varies tremendously among people. A walk up a slight grade will cause one hunter to be dripping with sweat and his buddy will be dry as a bone. I happen to be one of those people who does not perspire easily except at the feet. A very slight amount of exercise causes my feet to become clammy and unless I can change socks I soon become very uncomfortable. Conversations with other hunters has revealed that I'm not alone with this peculiarity. Insulated rubber boots can be ideal for certain sports and in spite of my perspiration problem I've learned how to use them and enjoy it. The solution is simple . . . carry an extra pair of wool socks in your hunting coat. When you reach the maximum distance you expect to be from camp simply sit down and change socks. You can do this at 20 below with no great discomfort and when you slip that *dry* foot back into those rubber boots you get a new lease on

life. The walk back not only seems but is much more comfortable.

The ordinary insulated rubber shoes are warm to be sure, but if you're looking for something that's even warmer try a pair of felt shoes inside a pair of calf high rubbers. Some people might be able to walk for long distances in them, but I'm sure my feet would melt right off. For sitting and waiting on a deer stand, snowmobiling, shuffling around while setting up a winter camp or some kind of reserved cold weather activity they are just great. The felt shoe worn with five-buckle arctics has been a well-known winter combination for over 50 years. Modern variations have improved only slightly on it; they just happen to be a bit lighter and somewhat more stylish.

Speaking of style, there's a new boot on the market this year that looks very interesting to me. It's a combination rubber and water-resistant nylon pac that is designed to be used with a felt liner. In fact the felt liner is an integral part of the boot. In those we're testing, the bottom is black rubber and the nylon top can be a choice of red or blue. There may be other colors but I haven't seen them so far.

The reason I'm intrigued by this one is the chance that this nylon top just may allow the shoe to "breathe" enough to provide me with a warm *dry* foot. The felt liner and the sock will absorb some of the moisture and perhaps the nylon top will permit some evaporation. I'm sure going to try it out thoroughly this winter.

Wool Is Best

Unless you're allergic to it, wool is the best sock material available. Some of the blends are okay if they contain at least 60 percent wool. I'm working on a couple pairs at the moment that are all wool except for a nylon-reinforced section at the heel and toe. Many different makers have socks like this in their line. I like neutral or white socks simply because I don't like to wind up with a green or red foot at the end of the day. (I have a friend who declares red socks are warmer, but I don't know any scientific reason for this.) Many experienced outdoorsmen wear a very light silk stocking underneath the wool jobs. It does add another layer of insulation of trapped air and that, of course, is what makes insulated clothing or shoes warm. Anything you put on your feet should fit snugly, but not tightly.

When buying shoes of any description some time should be spent in the store walking around in your prospective purchases. This is doubly true of footgear that will be worn outdoors. Hunting, camping or hiking shoes should be walked in, jumped with, and flexed in every imaginable sort of position. The shoe clerk and other customers will eye you suspiciously, but don't be rushed into a foolish buy. Good outdoor shoes are not cheap and after all you're the one who's going to wear them. When your feet are uncomfortable so are you.

Leather shoes can be just a trifle more snug than rubber or combination pacs. The leather will stretch and conform to your foot contours until they are properly broken in. A new leather shoe should not, however, be



DUCK HUNTERS, of course, know that there's no better style of footwear for them than hip boots. Light designs are more comfortable than the heavyweights, keep you just as dry.

uncomfortable when you wear it for the first time. Properly fitted shoes should be ready to walk in the first time you put them on.

Rubber shoes or rubber bottom pacs should always be tried on with the type of sock you expect to wear with them. The fit should be right on the money. If they are too tight expect a blister. The friction of rubber against skin even through a wool sock will create one in a hurry. If the rubber shoe is too loose the foot can slide from side to side or fore and aft while you're walking, particularly down hill. Your big toe will wind up looking like a cherry.

With the vast array of footgear available to the cold weather outdoorsman there's no excuse for cold feet. Just as great a problem is preventing the feet from becoming too warm. If you expect to be spending a lot of time outdoors in all shades of winter weather you really need two pairs of boots. The serious sportsman will have far more than this but these two basic types of footgear will cover most situations:

1. A pair of leather eight-inch boots, either insulated or uninsulated depending on your perspiration tolerance. These are for serious walking on dry ground or light fluffy snow when the temperature is higher than about 10 degrees. Always carry an extra pair of socks.

2. When the temperature drops to less than 10 degrees, rubber shoes with felt liners are a nice compromise. If you are walking a great deal don't fasten the bindings down too tightly.



KNOWING IT'S BEST to buy boots well in advance of the time they'll be used, Bob Parlaman tries on heavy insulated models in late summer.

To stay comfortable, the foot must breathe. Again, carry that extra pair of socks.

There are all sorts of special purpose foot coverings that fill particular needs. To cover all possibilities would require a whole closet full of boots. Take a good look at your requirements. Decide which you are . . . "hot foot" or "cold foot," "walker" or "sitter" . . . and make your purchases accordingly. Your feet just happen to be the only direct contact you have with the landscape. Take good care of them.

Lewis and Clark Award to Kozicky

Dr. Edward L. Kozicky, director of conservation for Winchester-Western, has been presented the Lewis and Clark Trail Commission Award on behalf of the Bureau of Outdoor Recreation of the Department of the Interior. The award recognized Dr. Kozicky's "invaluable work in conservation and his efforts on behalf of the Lewis and Clark Trail."

Judgment Day

By Keith C. Schuyler

Photos From the Author



IT ISN'T ALWAYS CONVENIENT to weigh a deer, but every successful hunter is willing to estimate his trophy's poundage. What would you guess this nice buck weighed? Answer is at end of column.

READING the local newspaper during the hunting season to determine deer weights from kill reports provides, for the most part, little more than a chuckle. Hunters are notoriously bad at judging field-dressed deer weights no matter how honest they might try to be. An estimate of weight frequently parallels judgment of the distance at which the animal was shot.

Fishermen have only one area in which to tamper with the truth, and that is in the size of their trophies. Hunters can go them one better since they can also misjudge the distance at which the trophy was taken.

Since we are concerned here primarily with the weight of deer, either on the hoof or field-dressed, we are not going to go into the matter of distance involved in the shot. By carrying a 100-ft. tape along on deer hunts, I have proven conclusively that human judgment of distance is normally quite faulty under woodland conditions. On the other hand, a sensible bow hunter should not be taking long shots. Any bragging in this department is likely to fly back in the booster's face as prima facie evidence of poor sportsmanship.

But, back to the food locker. Butchers who specialize in dressing deer for the food locker are frequently abused by hunters. The hunter simply cannot believe that that little cardboard box can contain all the meat in the mammoth buck he dropped off at the locker a few days previously.

The purpose here is not to test the veracity of my fellow hunters. Rather, it is to present some information on deer sizes which can settle a lot of arguments.

Aside from the sport involved, bow

hunters should have a particular interest in October venison. First, deer are considerably heavier on an average than they will be during the December gunning season. Secondly, meat is especially tasty when taken during October if proper care is used in the field to preserve the carcass.

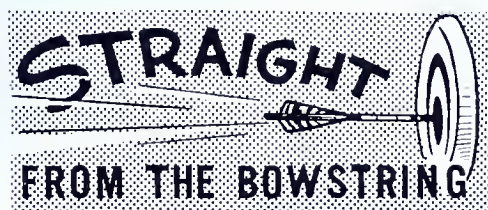
Research has shown that mature male deer lose as much as 10 percent of their summer body weight by December. The familiar rutting season, when mating takes place, causes loss in two ways. Bucks go on somewhat of a diet during the period when their attention is focused on lady deer. Further, rutting activity in itself tends to cause a weight reduction.

Hunters Keep Deer Moving

During the regular gunning season, the army of gun hunters naturally keeps deer on the move, to cause a further loss in the early part of the December season. Excitement engendered under such conditions is not considered conducive to improving the quality of venison.

Proof of this is illustrated by a comparison of identical cuts from deer taken during the bow hunting season with those shot during December. Whereas fat on animals taken in the last month of the year is frequently strong and must be discarded, that of October venison is little different from that found on good beef cattle. Fat is what flavors meat, and there is considerably more of it on an October whitetail.

Nevertheless, there is usually a considerable margin between actual field-dressed weights and weights of all deer reported to the local newspapers. A personal study of the situation has proved to this writer that this is so.



A HUGE BUCK? Well, he's got a fine set of antlers, but this old fellow went just 118 pounds, field-dressed, in October.

For example, some years ago I drew up a card to be used in one of the area food lockers where deer were processed each fall. Two columns were listed. The first was for the estimated weight given on the required deer tag, and the second was for the actual field-dressed weight shown on the tested locker scales. Guesstimates were frequently off as much as 40 percent. It seemed that hardly anyone wanted to turn in a deer much under 150 pounds. Several hunters underestimated their weights, but these were the exceptions. A few were quite close in their estimates. Most were far off.

The heaviest deer reported in Pennsylvania in the past three years was a 9-point buck taken near Lawton, Pa., in 1966. The animal was shot by James Newhart of Lawton, and it went 213 pounds fully field-dressed when weighed by Game Commission biologists at the Tunkhannock deer check station. This is an extremely large white-tailed deer. Few come near it in weight although newspapers carry stories about many near this size each



COLUMNIST SCHUYLER WITH A nice buck taken some years ago. Though the rack is small, this deer actually weighed 140 pounds field-dressed.

year. The buck was three and a half years old, which helped to account for his massive size.

Any deer which approaches 200 pounds, either in October or December, is a big one. Average field-dressed weights of deer taken in 1968, when weighed at the four check points set up for the purpose by the Pennsylvania Game Commission, were 116 pounds for antlered deer with spikes or better; yearlings, or those approximately 18 months old, averaged 102; those about two and one-half years of age averaged 117; and three-and-a-half-year-old deer hit an average of 127 pounds. These admittedly are averages, and an occasional buck goes considerably over. But, to hit an average, you must include those that are on the other side of the coin. Many of the bucks were far smaller.

Female deer, surprisingly enough, averaged 97 pounds, or only 19 pounds lighter than their male counterparts overall. Those deer born in the spring which preceded the hunt averaged 54 pounds.

What all this means to the bow

hunter, if he takes his deer during the special season, is that he is getting considerably more venison for his money. If you add 10 percent to the current weights established, you will be somewhere close to the average for the deer taken by bow and arrow.

130-Lb. Doe

The biggest October female deer that I ever bagged weighed 130 pounds. She would still have been larger than usual during the gunning season, but by applying the percentages we would then bring her weight down to about 117. On the other hand, my biggest buck taken with the bow weighed in at 140. During the December season he would still have been somewhat heavier than the average December deer of 116 pounds if we subtract 14 pounds from his October weight.

Why do hunters estimate their deer so high?

There are a number of reasons for this, but basically it is more convenient to just take a guess at the weight than it is to actually weigh the animal.

And this removes the taint of deliberately stretching the truth about it, since anybody can make a bad guess. But some of the estimated weights which appear each fall in newspapers are downright ridiculous to anyone who has a fair knowledge of what a deer should weigh.

If we go back to the actual figures compiled by the Pennsylvania Game Commission at its four checking stations each December, it is fairly easy to determine about what a spike buck, for example, should weigh. The rare exception to this is the old deer which, because of the normal problems attendant to old age and the possible scarcity of food, does not have a large rack. He can be a big deer and still not show much head adornment. Nevertheless, he will have more than a spike, and his body frame will certainly provide a clue as to his approximate weight.

Another reason which enters the picture is determined considerably by about how far it is necessary to carry or drag a deer to the successful hunter's automobile. Anyone who has carried a heavy rifle all day long would swear the thing weighed 50 pounds by the day's end. Anybody who has dragged a deer for a mile or so over rough terrain can be excused for thinking it weighs substantially more than it does in fact.

Undoubtedly the one factor which has the most bearing on estimates of a deer's weight is size of the antlers. Anyone getting a fleeting glance at a buck with a spread of antlers has a standard report of the incident. "It was one whale of a big buck!" Even when the deer is dead and field-dressed, it is difficult to take one's gaze from the antlers. One of the finest bucks, from the standpoint of

antlers, taken last year in the archery season, an 8-pointer, field-dressed at a mere 118 pounds, two pounds heavier than the average for December deer. It was actually less than the average buck in weight.

Large antlers are many times a clue to the weight of the animal, but they are given substance far out of proportion to their actual significance. A 7-pointer I upended on the mountain one year with the gun was guessed in at anywhere from 120 to 134 pounds by the gang. It actually weighed in at exactly 100 pounds. On the other hand, my first was a 12-pointer in its prime which weighed in officially at 180 pounds.

Estimating Is Tough

Trying to estimate live weight, sometimes known as on-the-hoof weight, is even more difficult. Here again the October deer has the edge. With reservations. Normally, the viscera of mid-autumn deer should account for less of the total body weight. Body fat and general well-being of the animal is on the high side. A December deer has lost somewhere near the estimated 10 percent in body weight. But, it may not be eating as heavily so that there would be a slightly disproportionate loss in offal weight when the animal is field-dressed. This is all in the neighborhood of conjecture, but it does point up the difficulty of estimating live weight.

A completely field-dressed deer, with both the abdominal and lung cavities cleaned, is believed to have lost roughly 30 percent of its live weight. But from actual weights personally witnessed, it would appear that this is really a *rough* estimate.

You might decide to be a bit more conservative in your next judgment of deer weight after reading this. There are actual figures from which to work. But nothing will ever take the place of weighing the animal on tested scales for your records and a clear conscience . . . on the day of judgment.

(Weight of deer in photo—128 pounds.)

Give

GAME NEWS

To a Friend . . .

Whether Your Favorite Bushytail-Banger Is a 12-Gauge Magnum or a Super-Accurate Target-Scoped 22, It's Getting Time for the . . .



High Targets

By Don Lewis

Photos by Helen Lewis

THE INCESSANT barking of a gray squirrel had kept me on edge for a half-hour as I tried to locate it. I've always had good hunting vision, but this squirrel had me ready to give up. It was the first day of the early squirrel and grouse season. In my particular spot, the foliage was still thick, and trying to locate a wary squirrel wasn't easy. I was surprised when I saw the frisking of a squirrel's tail not over 100 feet away. A little shifting around allowed me to locate the animal in the scope. I was using a Marlin M57, 22 Rimfire Magnum with a 6X Weaver scope. I had fired a box of shells from the benchrest, and most of the groups stayed under $1\frac{1}{2}$ " at 100 yards. This made it an ideal squirrel rifle for shots up to 60 yards.

It took me over a minute to get in position to shoot, and the only way I could get a clear shot was by standing on my toes. This made aiming almost impossible, and the only support I could get was by pushing my right shoulder tight against a small tree. After two or three attempts to shoot, I managed to freeze the crosswires on the squirrel and squeeze the trigger. The squirrel hit the ground and never moved. I felt I had made a pretty fair shot from the awkward position I had to shoot from.

I sat tight for several more minutes to allow the woods to become calm again. I really thought I had shot the only squirrel in my vicinity and I was about to leave when the chattering started all over again. I hardly moved

for the next 15 minutes, but finally caught a glimpse of the ol' tree climber as it whipped around a large black oak 40 yards away. This time, the tree I was leaning against gave me a benchrest shot, and centered the reticle on the big gray and fired. In a flash, the gray was around the tree, and I just stared, not knowing how I missed.

The next ten minutes went by with me looking the tree over from top to bottom, but nothing happened. I decided to slip down to the tree and perhaps get a shot up in the high limbs. Just as I moved, I saw a blurred object streak down through the limbs and heard it hit the ground. This caught me by surprise. I never expected a squirrel that far from me to jump 30 feet to the ground when it could have scampered down the tree long before I could get there. I lost no time in getting to the tree, but nothing could be seen of the gray. I walked around the tree a couple of times and nearly stepped on the dead gray.

After I collected the first squirrel. I sat down under the big oak and tried to figure out what had happened. My shot had struck the second squirrel right in the rib cage, and it had literally destroyed all the vital organs. I knew the gray couldn't have lived for more than a few seconds at the longest. The maze of limbs kept me from seeing if there was a hole in the tree—I've heard that sometimes another squirrel will push a dead one out of a hole. I finally settled on the theory that the gray died holding on to the bark, and after a few minutes, its weight simply pulled it loose. I stuffed both squirrels into my hunting coat and headed for the car.



I hadn't gone far when I spied another gray really covering the ground about 80 yards away. I watched it start up a tree before I lost it. I worked my way toward the tree and sat down behind a stump. I didn't have long to wait. The gray hit the ground, grabbed a nut, and landed on the side of the same tree; this was the shot I had been waiting for. I flipped off the safety, centered the reticle on the gray's shoulder, and eased off the shot. I consider it one of the best I've ever made. I hit the gray exactly where I was holding, and it was 62 long steps from where I shot to the gray. As I walked to the car, I became convinced that squirrel hunting is not only for beginners.

Time to Match Wits

Squirrel hunting should gain new popularity. The early season, along with the regular and extended seasons, gives the hunter more time than ever to enjoy matching wits with the wily tree artists. I know that a good many hunters feel that squirrel hunting is only for new hunters. I'll go out on the limb with the squirrels to prove that squirrel hunting is no pushover with any type of firearm, and this includes the shotgun, too.

If you have the idea that squirrel hunting has no thrills in it or lacks the challenge of other kinds of hunting, try it. Even with your favorite shotgun, you won't make a startling bag the first season, and if you stick strictly to the rifle, you won't deplete the squirrel population too much the first three or four seasons. A squirrel is not large to begin with. Secondly, it has a lot in its favor. I'm certain that many hunters picture the defenseless squirrel silhouetted against the afternoon sky as a sure victim of the cunning hunter. I've seen this event a dozen times or so during the 30-some years I have hunted, but I can also relate numerous times when a squirrel used its woodland cunning and left me looking up the wrong tree. Believe me, squirrel hunting has its moments.

I mentioned the shotgun because so many hunters accept the idea that once a shotgun is used, squirrel hunting becomes "a squirrel with every shot" situation. Here again, this kind of thinking breeds a wrong philosophy. Sure, I know that a sitting squirrel requires little skill from the fellow with the shot-thrower, but, as I said before, not every squirrel gets into that predicament. I wonder if any of you readers ever missed a shot or two at a fox squirrel as it just seemed to float across the treetops. There must be a few of you who have emptied your shotguns at a streaking bushy-tail as it scampered through the woods. Am I the only fellow who has taken dead aim with his trusty shotgun at a gray's head in a forked tree and shot after the squirrel ducked? I don't think so.

Misses With Shotgun

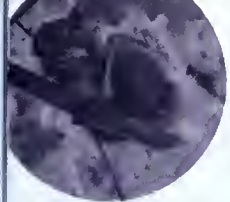
I recall a dozen years ago when I met up with a fellow who had taken more than 30 deer and countless small game. I had heard two fast shots and then two more. When I ran smack into this hunter, I asked him about the shots. He admitted missing four shots at a running squirrel. Without thinking, I suggested he ought to use a rifle for squirrels. He nearly broke my ear drums when he shouted, "Use a rifle! Man, I can't hit them with a shotgun." It seems that this was the fifth squirrel he had missed that evening. I departed after listening to 40 years of hunting stories about shots on big game that seemed almost impossible to make. I felt weak and insecure as a hunter after hearing from the mouth of a professional how great shots are made. The only consolation I derived from it all was that I had two big fox squirrels in my coat that I had shot with a simple 22 rifle.

The 22 rifle and squirrel hunting are synonymous; they go together. Squirrels don't come easy with any kind of gun, but the 22 does add the extra thrills that makes hunting the tree climbers such a rewarding sport.

For many years, the squirrel rifle was whatever kind of 22 was in the house. All types and makes filled the bill for the last five decades. These rifles brought down a lot of squirrels, and many a country boy, myself included, got his first taste of hunting sitting tight against a tree watching for the high targets. One reason the 22 rifle fits into the squirrel hunting scene is that it's powerful enough for the game and it has a low noise level. A shot from a 22 rifle won't bother squirrels 50 yards away. I think the greatest asset the 22 offers is precision. Here is where a hunter can prove his merit. With an accurate rifle, head shots are not only theoretical at 50 yards, but can actually be made. The hunter with a good rifle and a fine scope can prove his shooting ability. I won't hesitate to say that a lot of surprises are in store for the new squirrel hunter regardless of his other hunting experiences. It just isn't that easy.

I have the pleasure of knowing two brothers who specialize in squirrel hunting. They are Milton and Wilbur Anderson of Greenoch. I don't claim they are super-experts or that they never miss. I'm simply saying they have taken the sport of squirrel hunting seriously. Each owns a fine semi-target rifle with an adjustable trigger and a high quality 6X target-type scope, and I know personally that either rifle will cut a 5-shot half-inch group at 50 yards. Plenty of practice during the summer months with these outfits gets the Anderson brothers in shape for even the toughest squirrel shots. Even with all their experience and fine hunting equipment, they will tell you that not every shot puts a squirrel in the game bag.

I'm asked a number of times each year what I think makes a good squirrel outfit. This is a difficult question to answer. First, outfits such as the Anderson brothers own cost a considerable amount of money—nearly \$175 each. But I can tell you right now that outfits of this quality outshoot convincingly the run of the mill 22 rifle.



Tests I conducted with high grade target ammo proved that the conventional 22 rifle has about 1¼-inch group potential at 50 yards. This is a far cry from the ¼" to 7/16" groups given by the higher priced outfits. Don't get me wrong. I'm not insinuating that you won't be successful or have any sport unless you own a top priced outfit and target scope. I do think that with the long squirrel season we now have in Pennsylvania, it could be the proper time to give a little consideration to buying a lightweight target rifle plus a fine target-type scope.

I keep mentioning a target-type scope for the reason that it's the most practical scope a squirrel hunter can own. The semi-target 22 rifles on the market have amazing accuracy, and the target-type scope with external adjustments permits the shooter to pinpoint his shot. This kind of scope gets the best out of the rifle. Keep in mind that the inexpensive scope magnifies just the same as a high-priced target model, but it is lacking in other aspects. The cheaper scopes have thick crosswires that make precise aiming difficult, while the target scope can be purchased with a very fine reticle that will quarter a 22-caliber bullet hole at 50 yards. Some distortion and comparatively poor image quality are two more drawbacks that many of the cheap scopes have. The target scope is distortion free and gives excellent image quality even under adverse weather conditions.

Light Transmission

But the real difference between the lower priced scopes and the expensive target models is light transmission. The squirrel hunter needs a scope that will show him his target clearly in the dull early morning light or the darkening shadows of evening. I was hunting chucks with a friend, and the late

afternoon was threatened with a coming storm. While we were watching a chuck about 200 yards away, the sky blackened to the extent that it really darkened the entire countryside. My friend, who was using a 218 Bee with a low-grade 6X scope decided to shoot before the rain hit. I waited for a full half-minute as he sighted, lifted his head to watch the chuck, and then went back to sighting. He finally declared that it was no time for a scope and removed the cartridge from his rifle.

I had been watching the chuck through my 8X target scope, and I handed him my rifle to show what a good scope would do. He was amazed. I picked up his rifle, and it was impossible to see the chuck. My friend failed to get the chuck, but it wasn't because he couldn't see it through the scope. Squirrel hunters don't shoot at extra long distances, but they need all



the light they can get for a lot of their shooting.

Ammunition for squirrel hunting is given little thought. Most hunters prefer the hi-speed stuff, but actually, the low velocity target ammo does a far better job. The vast difference in accuracy alone is worth the extra cost. Even the ordinary 22 rifle can be improved accuracywise by using target ammo.

If all your hunting has been done for rabbits, grouse and big game, you've deprived yourself of a great

sport. Squirrel hunting can be enjoyed by the entire family. You're missing some real thrills if you don't spend a few evenings pitting your skill against the high fliers of the tall trees. If you don't want to go in for a genuine squirrel outfit take whatever you have. Get some practice prior to the season and you'll even enjoy it more. It won't take you long to discover that you've been missing a whale of a good time; it also might just prove that you're not the shot you thought you were when it comes to the high targets.

Warning on Amphibious Vehicles

James A. Brown, Chief of the Game Commission's Division of Law Enforcement, calls attention to the following: motor powered amphibious vehicles shall be construed as motor vehicles while operating on land, and as power boats while operating on water. In accordance with the provisions of the Game Law, the same rules and regulations shall apply to these with respect to hunting as apply to motor vehicles and motor boats.

Lee Hocker Sets Benchrest Record

Lee Hocker, 15-year-old son of well-known rifleman Cliff Hocker of Camp Hill, Pa., set a new record for group size in the 1000-yard benchrest matches near Williamsport on August 10. Firing a 300 Winchester Magnum, young Hocker put 10 shots into a group measuring only 8 15/32 inches from center to center of the two widest shots. This is the smallest group ever made in such competition.

Book Review . . .

Gun Digest, 24th Edition

The cover blurb says "World's Greatest Gun Book," and that takes in a lot of territory, but even a dedicated skeptic would have a tough time disproving the claim. Coming up to the quarter-century mark, the latest edition of this big gun annual is jammed with thought-provoking, highly informative articles—some four dozen of them. Handgunners who believe Sam Colt invented the revolver will learn otherwise in Lindsay and Pendleton's "Six Shooters Since Sixteen Hundred," and those who'd like to hit with their pets will profit from Charley Askins' "Two-Fisted Handgunning." In a look at things to come, George Nonte surveys Daisy's caseless ammunition and the guns to go with it, while working in the other direction R. O. Ackerman discusses the mysteries of the stock inlays on many Pennsylvania long rifles. Jack O'Connor writes on killing power, Pete Kuhlhoff on Marlin's centennial, Warren Page on benchrest barrels, Bradford Angier on trophy hunting in British Columbia . . . the list goes on and on. There's even a new state-by-state directory of places to buy shootin' stuff. Highly recommended—this is the guncrank's yearly must. (*Gun Digest*, ed. by John T. Amber, Gun Digest Co., 4540 West Madison, Chicago, Ill. 60624, 416 pp., 8½ x 11. \$4.95.)

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LOYALSOCK GAME FARM—Charles Pfeiffer, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223.
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SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456

Pennsylvania Seasons and Bag Limits 1969-1970

The Pennsylvania Game Commission, in Harrisburg on June 3, 1969, established the following seasons and bag limits for resident game and furbearers for the 1969-1970 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on November 1 will be 9:00 a.m., EST. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset, except for raccoons which may be hunted any hour and turkey gobblers (spring season) from one-half hour before sunrise until 10:00 a.m. DST. Shooting hours for migratory birds will be announced later.

SMALL GAME			DATES OF OPEN SEASONS	
Daily Limit	Season Limit		First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 18	Nov. 29 AND
2	10	Ruffed Grouse (not more than 10 in combined seasons) ..	Dec. 26	Jan. 10, 1970
1	1	Wild Turkey—Counties, and parts of, listed below*	Oct. 18	Nov. 29 AND
		—Counties, and parts of, not listed below	Dec. 26	Jan. 10, 1970
		—Spring Gobbler Season (bearded birds only)	Oct. 18	Nov. 29 AND
4	20	Rabbits, Cottontail (not more than 20 in combined seasons)	Dec. 26	Jan. 10, 1970
2	8	Ring-necked Pheasants, males only	Nov. 1	Nov. 27
4	20	Bobwhite Quail	Nov. 1	Nov. 15
2	6	Hares (Snowshoe Rabbits) or Varying Hares	May 9	May 16, 1970
Unlimited		Raccoons (hunting or trapping)	Nov. 1	Nov. 29 AND
Unlimited		Woodchucks (Groundhogs)	Dec. 26	Jan. 10, 1970
Unlimited		Grackles	Nov. 1	Nov. 29
Unlimited		Squirrels, Red	Dec. 26	Jan. 3, 1970
			No close season	
			No close season	
			All months except	
			Oct. 1-17, incl.	
BIG GAME				
1	1	Bear, over one year old, by individual	Nov. 28	Nov. 29
1	1	Bear, over one year old, by hunting party of 5 or more ..	Nov. 28	Nov. 29
		Deer, Archery Season, any deer—Statewide	Sep. 27	Oct. 31 AND
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Dec. 26	Jan. 10, 1970
1	1	Deer, Antlered and Antlerless, with required antlerless license, buckshot and bow and arrow only in Special Regulations Area listed below**	Dec. 1	Dec. 13
		Deer, Antlerless—Statewide	Dec. 1	Dec. 13
		—Counties, and parts of, listed below*** ..	Dec. 15 & 16 ONLY	
		—Bad Weather or Inadequate Harvest Extension—In case of bad weather or inadequate harvest Dec. 15 & 16 in counties designated	Dec. 15	Dec. 20
			Dec. 19 and/or Dec. 20	
FURBEARERS				
Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 22	Jan. 11, 1970
Unlimited		Muskrats (traps only)	Nov. 22	Jan. 11, 1970
			AND	
6	6	Beavers (traps only)—Counties of Luzerne, Susquehanna and Wayne	Feb. 7	Mar. 8, 1970
3	3	Beavers (traps only)—Remainder of State	Feb. 7	Mar. 8, 1970

NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Chukar Partridges, Sharp-tailed Grouse.

***For special regulations concerning deer, turkeys and beaver, consult the 1969-70 Hunting and Trapping Digest.**

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COVER PAINTING BY CHUCK RIPPER

Though not our most numerous big game species, the black bear is quite likely our top trophy in the minds of many Keystone State hunters. His comparative scarcity accounts for only part of this. More of it seems due to his size and cunning—and especially the traditional, even legendary, mystique that surrounds him. Bears are something apart in the animal kingdom . . . and bear hunters are somehow different than ordinary hunters. They seem to think differently, act differently, hunt differently. Sometimes with ludicrous results, of course. But, then, sometimes successfully. And that's what counts in the long run.

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Proclamation

HUNT SAFELY IN PENNSYLVANIA TIME SEPTEMBER 1, 1969-JANUARY 10, 1970

PENNSYLVANIA'S hunting seasons will begin September 1, with the opening of dove hunting, followed by small and big game seasons through January 10, 1970.

Hunting in Pennsylvania offers outdoor recreation for one million residents and 90,000 nonresidents demanding greater opportunities for the wholesome enjoyment of the Commonwealth's abundant wildlife resources.

Pennsylvania hunters were involved last year in 25 fatal and 505 nonfatal hunting accidents which are a careless and needless blemish on the record of a fine sport. Each hunter should exercise his hunting privilege by reviewing safe gun handling procedures and adhering to the rights of landowners.

Having been recognized internationally for its efforts in organized hunter safety, Pennsylvania begins mandatory Hunter Safety Training on September 1, 1969. All hunters and qualified instructors are encouraged to participate in this worthwhile program.

Therefore, as Governor of the Commonwealth of Pennsylvania, I hereby proclaim September 1, 1969, through January 10, 1970, as HUNT SAFELY IN PENNSYLVANIA TIME in Pennsylvania and urge every hunter to become better trained and informed on safety precautions, and do his utmost toward reducing hunting accidents in Pennsylvania.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-first day of August, in the year of our Lord one thousand nine hundred and sixty-nine, and of the Commonwealth the one hundred and ninety-fourth.



RAYMOND P. SHAFER, GOVERNOR



*It's Been Said—and Truly—That There's More Than
One Way to Skin a Cat. Something Similar Doubtless Applies
When It's Time to Bag a Bunny!*

Frankie Shoots a Rabbit

By Paul Try

THE FRANKIE of this story was one of my ancestors. The fourth son of a large family, he was reared in a woodland setting, and so was conversant with nature and the ways to her wild creatures. His older brothers were proficient ballplayers, good shots, and outstanding hunters. Frankie himself was a miserable ballplayer, and he couldn't hit anything—not even with a shotgun—because his coordination was poor and his eyesight even worse. And so one lovely fall day when he picked up the shotgun and told his brothers he was going rabbit hunting they were surprised no end.

One by one they ribbed him about his shooting. "Boy, if you can't hit the side of a house," one of them demanded, laughing noisily, "how you going to hit a teensy, little rabbit?"

"Frankie's gonna run him down," another suggested.

"Betcha he doesn't even git him a little white tail," chimed in the third.

"I'm gonna shoot me a rabbit," Frankie insisted, taking a handful of shells from the box on the windowsill and stuffing them into the pocket of his overlarge, worn coat.

The brothers were all agreed that if Frankie went hunting it might be an event worth watching. Unknown to the would-be hunter who, calling their black-and-tan, bench-legged beagle, started toward the nearby woods, they followed after, keeping close enough to "see the fun" as one of them put it, yet well concealed by the bushes and trees.

Maybe Frankie wasn't much of a hunter but Bess knew her business.

Rabbits were plentiful that fall and soon her melodious baying rang through the valley. Presently, the crescendo of the chase increased and everyone knew she had jumped her quarry. Frankie posted himself on a big, flat stump where he had a good view through a bit of woods comparatively free of underbrush, where rabbits usually crossed. His brothers crept as close as they dared, grinning joyfully at each other, winking or nodding in anticipation of the show to follow.

Bess took the rabbit slowly out over a small knoll then circled back in their direction. Frankie gripped the shotgun in both hands in a ready position. The brothers grew tense with excitement. Good old Bess was doing her part nobly. Suddenly, about a hundred feet ahead of the baying hound they saw the lively, brown creature hop into the clearing. He was a big fellow and would make a welcome addition to their menu—if only Frankie was a better hunter.

Merely Hopping

The rabbit wasn't going very fast—merely hopping along—for Bess was a slow trailer. Their eyes focused on Frankie, the brothers watched him bring the gun to a firing position and swing after the rabbit like a good hunter should. The thunder of the shot reverberated through the woodland valley. The rabbit kept moving along without even increasing his pace.

Hurriedly Frankie reloaded his gun, just as Bess, her tail waving back and forth, came into view. "Sorry, Old Lady," he said to the dog, in Penn-

sylvania German. "That time I him missed. Bring him again around and we try to do better."

The watchers heard him clearly. One of them afterwards declared that Bess eyed him scornfully as she passed by, then once more nosed along the trail baying loudly. They nudged each other gleefully. With difficulty they



BESS EYED HIM scornfully as she passed by, then once more nosed along the trail baying loudly. The watchers restrained their laughter with difficulty.

restrained their laughter. As usual, whenever he went hunting, Frankie was putting on a good show.

Presently they heard Bess once more coming in their direction. Even more tensely than before they awaited Frankie's next attempt at shooting the rabbit. Again he raised his gun and followed the rabbit, which was even closer than it had been before. Suddenly he lowered the gun in disgust.

"Sit once down," he said to the slowly moving rabbit. "Mebby then I can you shoot."

By now the brothers were ready to roll on the ground with laughter. Then, to their amazement, as if it had heard and understood Frankie's voice, the rabbit stopped, raised upward on his hind legs and turned his head as though listening to old Bess baying along his trail. The brothers had a hard time keeping silent. They wanted

to yell at Frankie to shoot now, but they didn't want to reveal their presence. As if realizing their urging, Frankie raised his gun and fired.

Once again the thunder of the gun shot echoed and re-echoed through the woodland valley. The rabbit, untouched, gazed alertly in Frankie's direction, then scooted away through the trees. The brothers rolled in silent merriment.

"Missed again, by jinks," Frankie berated himself.

Disgusted Look

All three boys later declared that this time Bess stopped in the middle of the opening and looked disgustedly at Frankie before she once more resumed the chase. Frankie, his hands shaking, reloaded the gun. Maybe he couldn't shoot worth a darn, but he was persistent. Deep underneath their enjoyment and laughter the others began to feel a trace of pity for their brother and his twin handicaps. Softly they conferred; they even considered shooting the rabbit for him. But no one made a move. For the time being the situation offered too much entertainment.

Being a good rabbit dog, Bess once more was circling back with her quarry. At least the sounds of the chase were as inspiring to their hunter's souls as before. Crouched behind their screen of trees and bushes, the watchers tensed, waited for the next encounter. Frankie stood alertly on his stump, shotgun ready. This time the rabbit came slowly into the opening—even closer than before.

The brothers watched Frankie aim, then lower his gun. To their amazement he sprang from the stump and laid the gun on the ground. He took a couple of quick steps to one side, stooped over and appeared to pick something from the ground. By the time he had straightened up the rabbit was just ready to pass and not more than thirty feet away. Suddenly Frankie drew back his right arm and his brothers saw he held a stone.

Again they nudged each other, "That Frankie!" one of them whispered. "Can't shoot a bunny with the gun, so he's gonna stone him to death."

"Yessiree," the second added.

"This ought to be good," said the third.

All were having trouble keeping from laughing aloud, but their laughter was suddenly checked in stunned amazement. Just as the rabbit darted past him, Frankie flung his stone. It caught the running creature squarely. The watchers wanted to jump out and shout their approval, but Frankie's next unusual move forestalled even that.

Frankie took a startled look at the motionless rabbit, then ran back to the stump and picked up his gun. With trembling hands he pulled back the hammer, pointed the muzzle skyward and squeezed the trigger. The roar of the shot had barely subsided when Frankie let out a mighty yell. "I got him!" he shouted wildly. "I got him, I shot me a rabbit!"

Only then did he cross over to the rabbit and pick it up. He held it up by the hind legs, hefted it and smiled broadly. Then as a good hunter should, he field-dressed it. Carrying the shotgun in one hand and the rabbit in the other, he started proudly homeward.

Fled the Scene

Meanwhile, his brothers had already fled the scene. As Frankie came up the earthen path leading to his house they popped out from behind the barn and confronted him.

"Look once here," Frankie said, holding up the rabbit for their inspection. "I told you I'd shoot me a rabbit. Now what do you think of that?"

"That's wonderful," said one.

"Big fellow, ain't he?" commented a second.



"LOOK ONCE HERE," Frankie said. **"I told you I'd shoot me a rabbit. Now what do you think of that?"**

"I didn't think you could do it," confessed a third.

All the while they kept nudging each other and laughing so strangely that Frankie was somewhat puzzled by their behavior. Never once did he suspect that they knew how he had bagged the rabbit. It wasn't until many years later that they told their brother how they had witnessed the whole scene. By then glasses had corrected Frankie's poor vision, and with his improved eyesight his lack of coordination had disappeared. In fact he had become a fair hunter in his own right.

But that day as he turned away from his grinning brothers and strode toward the kitchen door—carrying his rabbit proudly so that everyone could see what he had done—one of his older brothers merely shouted in the direction of the house, a shout that alerted the rest of the family and filled Frankie's heart with gratitude.

"Hey, Pop," his brother shouted. "Look once out. What do you know. Frankie finally shot a rabbit."

Got the Answers

Most wild turkeys can be sexed and aged by the size and other characteristics of the lower leg.



Thoughts About Quail . . .

Anybody Got a Bird Dog?

By Lee James

MANY SPECIES of small game can be hunted without the services of a dog. The successful bobwhite hunter, however, is extremely handicapped without one. Oh sure, you can barge into a covey now and then and occasionally scare up a single when hunting solo, but to extract the maximum fun from this really top-notch game bird, a good pointing dog is nearly as important as the gun. In fact, to the real bird dog lover, the point, not the shot, is the thrill. In a way, I suppose, I'm more fortunate than some hunters for not only do I appreciate the work of a good dog, I tickle myself all out of shape when I make a good shot. And I like to eat quail. So much so that perhaps my admiration for this bird is more than a bit influenced by my taste buds.

The easiest way to enjoy the great sport of hunting quail with a pointing

dog is to cultivate the friendship of a hunter who happens to own a quail dog. The initial contact may take some doing, but once this kind of alliance is established you'll enjoy some good shooting. The basic reason for this is that the owner of a pointing dog, particularly if it's a good one, likes to have an admiring audience for his dog. He'll want those extra birds shown over his game-getter for the sake of the additional experience and, besides, most of his friends would probably rather chase ringnecks and rabbits than those foolish little quail. Most hunters don't believe there are many quail around. Sure, they hear them call before season, but, well, they just don't seem to be around during hunting season. Come on, now, you non-dog owners, how many quail did you shoot last year? Not all counties in the Commonwealth have huntable popula-

tions of quail, but even where they're the thickest the shots taken at bobwhite don't make much of a bang.

As revealed in the pages of **GAME NEWS** some time back, my introduction to quail hunting, Keystone style, was the result of getting to know the Reverend John Frehn of Camp Hill. John had several hard driving setters that really covered the landscape. This quality in a grouse or pheasant dog would soon give his owner fits of apoplexy, but the dog that will be called a quail dog has got to eat up the acreage. Bobwhite are gregarious birds that travel, sleep and feed together.

Wide Ranging Dog

Unless an area has been hunted before you get there, a point usually means a covey of birds. After a covey has been broken up, the birds are going to be scattered widely, but until they are, that covey the hunter is looking for may be in the stubblefield, the corn patch or out there in the orchard. The deliberate, plodding sweeper-nosed setter that doesn't miss a trick in the grouse coverts would not do too well on these birds. There just isn't time enough during the daylight hours for him to locate the coveys. After flushing the covey, when the birds are fanned out in a dozen different directions, the dashing style of the wide ranging dog may be less appreciated. This is, decidedly, the case down on the Southern plantations where the quail shooting gentleman of means carries an extra dog in the buggy that is used for singles shooting exclusively. Naturally, the single bird does not radiate the same intense scent that a whole covey would and the good singles dog has to be just a bit slower. Some dogs can handle both beautifully. These are proud moments for dog and owner because, with uncanny accuracy, the dog owner can usually tell from the style of the point if the dog is holding a covey or a single.

The sudden flush of a covey of quail, even when you are prepared and have your gun at high port, is a

first-class hunting experience. Traditionally, the rule is pick a single bird and shoot at it, and then, if you hit, pick another one and shoot at it. Simple, huh? On paper, yes. But the act of deciding which bird to shoot at usually consumes at least one-twentieth of a second—which is already too much wasted time. Then in desperation the shot is thrown at just any bird and the second shot—forget it! This description is typical for the beginning quail shooter when hunting in an open field. Compound the situation by having the dog find a covey in a honeysuckle thicket and it really becomes sticky. You actually have a little more time than you think; it just seems like sheer panic until you've experienced it a few times. Remember the first time you fired a round of trap or skeet? It seemed like those clay targets were traveling at a thousand miles per hour. Same thing holds true on flying game. A little practice and confidence in one's shooting ability improves the reaction time 100 percent.

While we're talking about shooting, the gun for quail hunting when using a pointing dog should be a specialized piece of ordnance. (Though it doesn't

COME ON, NOW, you non-dog owners, how many quail did you shoot last year? Might you have done better with a pair like this working for you?





WITH A GOOD DOG to quarter the fields ahead, the hunter can take the easy path and come up for the shooting when the point is made.

have to be a double, or engraved, or made in England.) It can be any type of shotgun under the sun so long as it meets two requirements—it must snap up to your shoulder naturally and it must be open choked. Improved cylinder is fine in 20- and 16-gauge guns, and if you shoot a 12, one of the skeet borings is okay. Most shots taken at quail occur between 10 and 25 yards. At these ranges full choke and modified borings just haven't begun to open up very much. If you do happen to center a quail at this distance, there isn't much left to pick up.

Pick a Bird

Even with these open chokes, your shot should never be pointed at the covey in general. That's the best way possible to miss completely or wind up crippling several birds. Pick a bird and hold on him. The hot-shot quail shooters, that is the ones who frequently score doubles, usually pick the bird farthest away for their first shot, then swing on a late riser for number two. The reasoning, of course, is if the

near bird is shot first the others may be out of range for the second shot. I must admit, however, that, for me most of this discussion is academic because I'm usually so excited about hitting that first bird that there's no possibility of the second one being downed.

There's not much planning to a covey rise. One bird hits the air and the rest follow, but not necessarily in the same direction. They may all head directly for yon hedgerow, a dozen in different directions, or straight at you. This latter maneuver usually requires the shooter to make a 90-degree turn and shoot at a straightaway target—one of the easiest to miss.

Here's an important tip to remember on a covey rise and one that has proven to be *almost* a sure thing. There always seems to be a Tail-End Charlie in every covey, sometimes two. After the main detachment has traveled out of range and you're standing there with an empty gun (reprimanding yourself) the last bird in the bunch decides the time is right and bounces

out insolently, offering what would have been the best shot of the day. This happened to me so many times that I now hold the record for fastest reloading if I have fired both barrels. If I fired only one shot on the covey rise, I just stand there waiting for that inevitable late starter. Of course, if no bird is forthcoming, you'll feel a little silly, but you won't be fooled too many times.

If diplomacy does pay off and you are invited by a bird dog owner to enjoy a quail hunt, there are some positive do's and don'ts. You bird dog specialists can ignore this, but first-timers pay strict attention, if you want to be invited a second time.

Do let your host decide where you will hunt. He's had his dogs out before season and he knows where the birds are.

Do say something nice about his dogs when they come blasting out of the car. They may look like hare-brained idiots, but they're *his* dogs.

Do practice all safety rules, particularly opening the action of your shotgun when you stop for a rest.

Don't attempt to control his dogs.

Don't, most emphatically, *don't* criticize his dogs' performance. If you don't like the way they act, don't hunt with him the next time.

Don't shoot too close over the dog's back at a low rising or crippled bird.

Don't expect the dog to retrieve the birds. Some owners train their dogs to do this, but many do not.

Don't forget to thank him for the hunt.

All types of hunting have features that are unique. Quail hunting with good pointing dogs is no exception. With the dogs covering the territory it's not necessary for the hunters to watch their every step in anticipation

of flushing game. Instead you watch the dogs and walk on the easy ground, avoiding the rough terrain and perhaps enjoying some conversation with your companion. You'll cover a lot of geography while quail hunting, but it isn't the same as charging through a cornfield hoping to send a big cock-bird into the air. Nor can it be compared with the ankle-twisting obstacle course that is frequently referred to as grouse hunting. It's a gentleman's

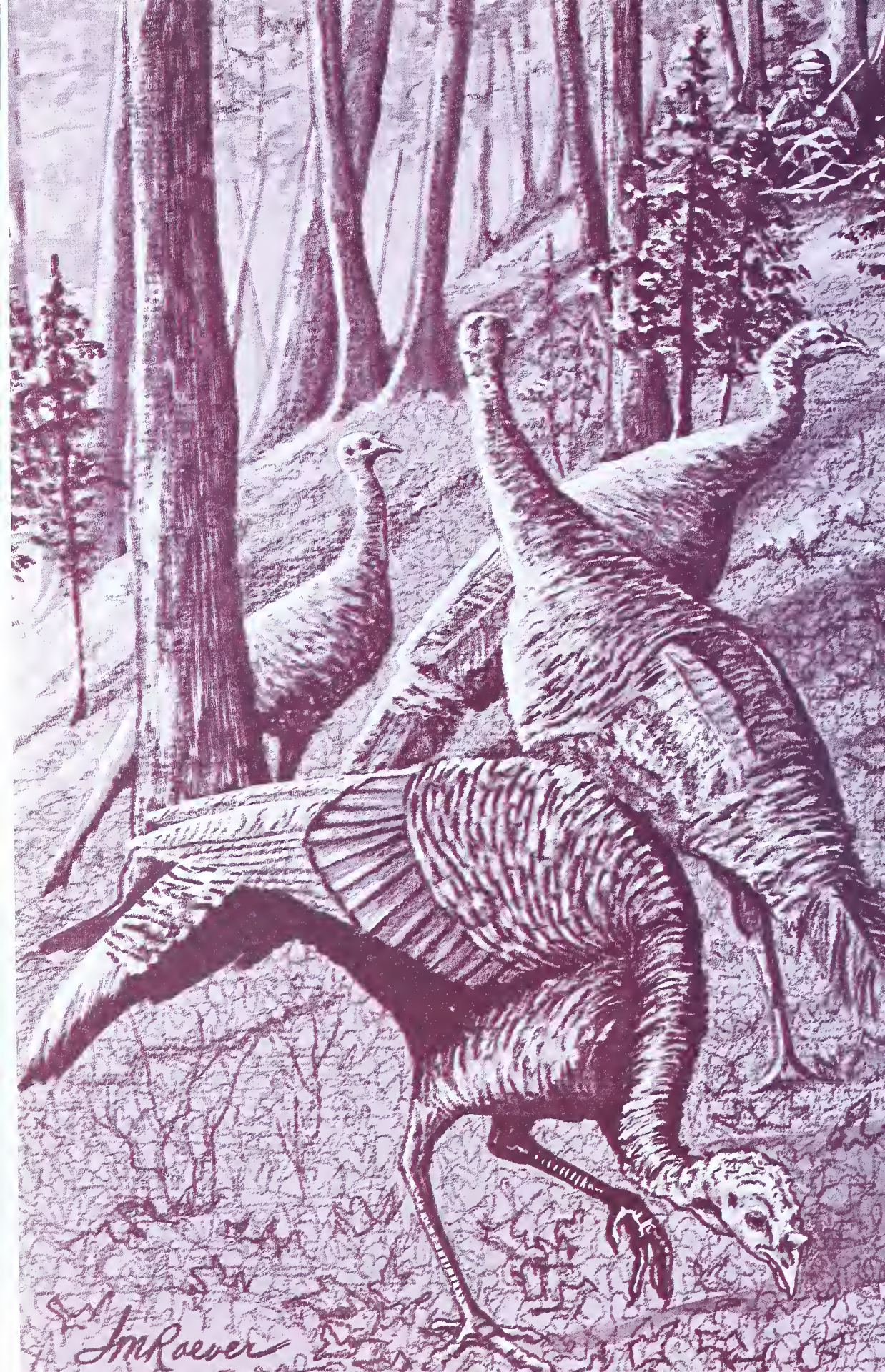


EXAMINING THE CROP contents of the first few birds shot can sometimes give a lead toward cover the birds are using.

sport all right, but there are plenty of action filled sequences too. The covey flush with birds going everywhere causes all hunters to come a trifle unglued. The rush across a field to where the young pup is on point, hoping that he'll hold until you can get close enough for a shot, is a thrill, as is finding a single where you never expected to. A big ring-necked rooster blasting himself airborne is guaranteed to shake you up when you were expecting quail.

If your friend who happens to own a bird dog reads this, he'll naturally be a little cautious the next time you start to talk about hunting. He'll know you're wangling for an invitation. But be persistent, because—who knows?—you may like quail hunting so much that you wind up with a little freckle-faced setter yourself.

**The Game Law
Violator Is
Stealing From You!**



J. M. Roever

When It Came to Turkey Hunting, I Didn't Know a Thing. So I Turned to the Experts for Advice. The Result . . .

A Textbook Turkey

By Warren Iezzi

FROM THE TIME I got up in the morning of the hunt until I got my turkey last fall, I followed the book to the letter. In fact, I even kept notes to be sure of not getting confused or forgetting what I should do in various situations. The chances of success are slim—I'd be the first to admit that—but the success of the hunt shows that it can be done by the book.

I got my first glimpse of a wild turkey in 1956, in the northeast section of Pennsylvania, while getting ready to go deer hunting. On my first weekend trip to the mountains I saw a wild turkey down in a hollow. It was quite a thrill and it left an impression on me.

A few weeks later I was back up to the mountain, North Mountain. The turkey season was in and I wanted to try for one. I borrowed a slate and chalk call from a friend and was instructed to call once or twice, wait 15 minutes and try again. Well, I didn't see anything. Nor did I have the slightest notion of how or where to hunt for turkeys. By the end of the day I was sure there was too much to being a turkey hunter for me to become one myself, at least by my own experience. I live 200 miles from where I go hunting, so I would not be able to devote enough time to learning what a turkey hunter must learn.

I all but gave up on becoming a turkey hunter from 1956 until 1968, when Pennsylvania had its first spring gobbler season. Somehow that got me started again. Hearing that a gobbler will come to a call easier in the spring might have helped me—a little.

I read the story, "Talk Turkey?" by

Don Shiner, in the April, 1968, issue of *GAME NEWS*, where I got the addresses of two companies where I could get calls, an instruction record and the book by Tom Turpin, *Hunting the Wild Turkey*. I had only a week or so to study up for the spring hunt. It wasn't enough time. I saw a big hen, but no gobbler.

In the interim between the spring hunt and fall, I bought another book on turkey hunting, a turkey instruction record and a box caller, all from M. L. Lynch, Birmingham, Ala. Putting all of the material together into notes and practicing the calls from both records, I felt that I at least had more knowledge for the fall season.

Textbooks Memorized

By the morning of the hunt I had the textbooks memorized and a list of notes to take with me in the woods. I had everything planned. The book said to be able to get an answer from a turkey on the roost you must be in the woods before daylight. Stepping out into a light drizzle in the dark was not very inviting, but I did it. By the time I got 200 yards into the woods I was soaked by the wet underbrush.

Not having any success with the tree call during dawn's early light, I went to the next step in the book: after it turns light, the "lost" call should be used.

My stand now was at the edge of a hidden grassy field. I sprawled in a slight rain-soaked depression to stay hidden. With a diaphragm caller, I gave forth with the lost call of the young turkey, as the instruction book-



let directed. I called about every two minutes for a 20-minute period. Having no action, I moved down the side of the mountain 300 or 400 yards, staying in the woods below a cut-over cornfield. As I walked through the wet leaves I could see that they had been moved recently. There was a wide area of fresh turkey scratchings. I walked past the scratching area 50 yards or more, looking for a good hiding place to call from. I found a spot near an old dead tree that made an ideal stand.

Sitting down, I got comfortable and decided this time to use the Lynch box caller, and make the lost call on the gobbler side of the box. I heard an answer immediately! I wasn't sure it was a turkey because it sounded like it could be a small dog. Then I remembered that one book had said a turkey in the woods sounds very much like a small dog barking, unless a person can hear the turkey clearly. I sat there dumfounded for a few seconds. Then, collecting my senses, I went back again to my book learning: answer every call a turkey makes when

you get an answer. If it was a small dog I didn't have anything to lose by making another call, I figured.

I made a few yelps and got another answer, this time much clearer. When using the lost call, you must keep your calling going or the turkey or turkeys answering you will think that something is wrong and will not come to you.

After using the yelp of the lost call, I answered with low clucks and only once to about three of the answers I was getting.

Hard to Believe

The yelps and clucks coming up the hill toward me sounded so much like part of one of my instruction records that I could hardly believe they were real. I was almost calm through the whole thing, it seemed to be so familiar.

More clucks and yelps made me put my caller down and get set. Something moved in front of me, about 40 yards down hill. Then I saw two turkeys standing there together. As I started to raise my gun, a movement to my left, 20 yards closer, caught my eye. My head spun excitedly, leaving caution to the turkeys. Not 20 yards from me, walking broadside, three young turkeys were making their way up the hill behind a group of hemlocks. They came on past the hemlocks and turned directly toward me. The lead bird, a hen, turned sharply to the right, placing itself alone. I put the bead on her and squeezed the trigger. The young hen flopped down the hill five yards or so, with me racing right behind her.

There must have been eight or 10 turkeys in that drove, and no doubt one of the older birds would have been a much bigger trophy. I didn't wait to find out! Next time I might try for a bigger trophy. If I ever have a flock like that come to my calling again, I might try being selective—I'm not sure yet. But I'm certainly happy with what I got this time—my text-book turkey.

A Successful Hunter May Think of His Turkey Only in Terms of Good Eating or a Satisfying Hunt, but His Wife Can Have . . .

"Seven Uses for Turkey - - - - -"

By Mrs. Nelson J. Wenner

A WILD TURKEY is great—particularly when defunct! Dad got a thrill from shooting it, Grandmom can brag about her son who shot a turkey "in this day and age," the children see a turkey wrapped in feathers instead of plastic, and *me*—I get the most benefit from it! The benefit is not only from the meat, which by the way was delicious (and it's a good thing Grandmom was visiting to tell us to soak it in salt water before we roasted it)—but my joy also came from the use of the turkey's feathers!

I've gotten more use from those feathers than from any other rare object around the house. To be exact I'll list the seven uses of feathers in case you have any sticking around your house, or in case your husband is going turkey hunting this year.

Here is how I used them in *November*:

1. I took feathers to church school and the kindergarten children made Indian feather bands and went to visit the Pilgrims (older class) for a Thanksgiving treat.

2. One-half dozen were used in a dried flower arrangement for my table centerpiece.

3. Five feathers were taped on the end of a three-foot stick, and this became "anything" my children (age five-eight-12) needed for their play that called for a three-foot stick with five feathers taped to the end! You know, like:

- a. Stick to tease sister
- b. Stick to hit brother
- c. Stick to be a cane
- d. Stick to be a spear
- e. Stick to be a magic wand
- f. Stick to be an arrow
- g. Stick to be a stick

4. Feathers were mailed to relatives in other parts of the country to prove my husband shot a wild turkey in Pennsylvania.

December Discoveries:

5. Feathers in picture frame with other dried objects made by daughter and husband for my Christmas gift.

6. Friend needed feathers to put in Christmas wreath.

January Joy:

7. Two dozen feathers were left over, so I took them to weekday nursery school. Guess what we did with them. We painted! The four-year-olds really had fun as they dipped the big end in paint and moved the feather in all directions over the paper. Stevie said, "This is the way they painted in the olden days."

I am saving a few lonely feathers because I am sure I'll think of something else that calls for them. You may feel that our turkey had an awful lot of feathers—it did—but I also got a few from a friend who couldn't think of seven uses for her turkey feathers!

Phones for Potter County Deer Hunters

The Bell Telephone Company again has established special communications centers in Potter County for the convenience of deer hunters during the peak of the season. The facilities, as previously, will be in the Volunteer Fire Department Building in Galeton and in the Potter County garage in Coudersport. Approximately 20 calls can be handled simultaneously at each location, and phones will be available from 2 to 10 p.m. daily, November 30 through December 3. The number at the Galeton center is (814) 435-2112, and at Coudersport it is (814) 274-0028.

Onward and Upward

The sapwood in a tree carries food and water upward from the root structure.



We All Feel Appreciation for Certain Things, Though Sometimes We Show It in Different Ways, or at Different Times, or From Different Places. Sometimes an Individual Experiences It Best . . .

From a Place on the Mountain

By Eugene R. Slatick

LOOKING as though he had always been there, Ben sat quietly on a rock that jutted out of the side of Bear Mountain. Before him was a valley several miles across. It was covered with a patchwork of woods and fields, all tied together with several strands of highway. On the horizon, waves of mountains blended into the haze.

It was late November, and Ben had driven to the mountain and then walked along a trail to get to this perch. It was his favorite sanctuary. When he reached it, he realized that his visit was long overdue. So, binocular in hand and time to spare, he avidly savored the view.

The rhythmical mountain breezes found him easy to entrance. His mind relaxed and his spirit rejoiced.

From time to time the sounds of distant shots reverberated across the valley, and once again Ben was amazed at how far sounds traveled. He pointed his binocular in the direction the shots came from, but saw nothing. The distance was too great and the haze washed away details. He wondered which quarry the hunters were adding to their game pouches. He had hunted in the valley regularly in the past; the sounds of his shots certainly must have echoed off this same mountainside.

The cawing of crows overhead interrupted his musing. A quartet of the bold birds sailed noisily over him and down into the valley, where their black coats blended into the somber tones of the winter woods.

A movement in the corner of his eye caused Ben to look up. There, in silent contrast to the crows, a turkey

vulture glided along the mountainside. Ben watched the bird balance on the rising air currents and work itself along a line above the edge of the valley.

Now the clouds that had earlier stretched across the horizon were overhead. Their shadows slid across the landscape, and Ben tried to guess which cloud cast a particular shadow.

The wind grew stronger. It shook the tree branches and ruffled the dead leaves on the ground. The sky darkened. Suddenly the air was filled with snow flurries—the season's first snow!

The snow fell rapidly, masking the view in a swirling white veil. It pelted Ben's face and decorated his jacket. He looked at the snow crystals on his sleeves and remembered reading somewhere that though all flakes are similar, each is unique. The snow made him feel refreshed.

The flurries gradually dwindled away and the sun emerged sparkling. A faint tinge of white colored the landscape.

It was time to leave. Ben stood up, stretched a little, and started back. A few dozen yards up the trail, near a bend, a buck deer stepped out into the open. Both man and animal were surprised. Ben stood quietly and watched. The deer, ears cocked, nervously sniffed the air. Then with a snort, he dashed into the woods, white tail flashing. Ben smiled. Seeing the deer was a nice ending to his visit.

A short while later Ben arrived home and was told that dinner would soon be served. He was ready for it, he realized, for he was full of the spirit of Thanksgiving.



Gunwriters Are Experts With Firearms—Everyone Knows That. That's How They Get Their Jobs on Magazines. Our GAME NEWS Columnist Is No Exception, as You Will Quickly See When You Read This Detailed—and Utterly Honest—Report . . .

Some of My Greatest Moments!

By Don Lewis

ONE OF MY most memorable moments afield came many years ago, on a crisp November day just after a light snowfall. It occurred on a rabbit hunt—fittingly, I feel, for bunnies traditionally are one of our most satisfying game animals, favorites of beginners and old-timers alike. Charley and I had come across a fresh track and had followed it some distance.

"Better call it quits," Charley said as we came into view of a farmhouse some distance below.

"That darn rabbit is probably in that fallen treetop out behind the old chicken coop," I answered. "Let's unload and go down and get permission. After all," I continued, as we headed toward the house, "just last week the owner asked me to come over and shoot the rabbits around his place."

I kept an eye on the tracks as we made our way through the orchard, and I was right—the rabbit was snug as could be under the treetop. I told Charley to wait while I made sure that we could hunt. Even though I knew the husband slightly, I'd never met his wife. When she opened the door I saw she was an attractive young woman. I explained the situation and told her that her husband had asked me to shoot some of the rabbits on the farm.

"Sure," she said, with a pleasant smile. "Just go right ahead and hunt anywhere you want to."

I thanked her profusely and started away. When I got a short distance from the house, it struck me that I hadn't fulfilled one of the cardinal rules of sportsmanship. I went back

and knocked on the door once more.

"I'm sorry I was so thoughtless," I told her. "Perhaps you would like to have the rabbit."

"Wonderful," she exclaimed, her smile getting bigger. "The only problem is, my husband doesn't hunt and I don't know anything about cleaning. . . ."

"I'll take care of that," I assured her. "Don't shoot it until I get a pan," she quipped happily.

As we left the yard and entered the orchard, I motioned for her to wait, and I loaded the double barrel and moved toward the fallen tree.

"Okay, Charley, I'll take him from here," I sang out as I got within a few yards of where the rabbit was sitting. My voice must have sounded strong and confident in the morning air. I glanced back and she was still wearing that smile.

A Blinding Streak

Charley booted the fallen treetop a couple of times, and a blinding streak came out my side of the tree. I fired. Twice. My first shot went too far in front of the speeding bunny, and when I tried to correct the error, I poured my second one into a spot that the rabbit had already passed.

I was dumfounded. I had missed two shots at a rabbit running across an open apple orchard. I stammered around about being a little out of practice, and the lady just stood there holding the big dishpan and biting hard on her lips to keep from bursting into laughter. Charley and I left in a hurry.

"Pretty smile hard on shooting eye,

wise old hunter said," Charley remarked cautiously.

"Ah, shut up and keep tramping," I threw back at him.

Every time I think of my overconfidence on that rabbit hunt, I get to thinking about a chuck hunt a few



I WAS IN FULL GEAR down through an uncut hayfield in hot pursuit of the rabbit when I saw a hunter. "Stop that rabbit," I yelled.

years back. I was hunting with a fellow who was sort of a quick-aim and trigger-yank artist. He connected on chucks occasionally, but never had any idea where he was going to hit them. I kept suggesting that he be a little more precise, but after he told me he didn't care where he hit them so long as he hit them, I really laid it on the line. I left no stone unturned as I pointed out to him that *anyone* could hit a fat chuck *somewhere*, but it was the mark of a real chuck hunter to pinpoint his shot. I informed him more than once that I was just that type of chuck artist. I made it very clear to him that I called my shots.

"There's your chance to prove it," he exclaimed as he pointed across the field. "Right there is your target. Let's see your artistry, and tell me now just where you will place your bullet," he added sarcastically.

"I'll take him back of the ear," I replied as I studied the chuck through the 15X scope. "It shouldn't be too

difficult," I said as I stretched out in a comfortable prone position.

The chuck finally turned sideways, and the fine cross hair reticule slid just behind the chuck's ear and froze; I touched off the shot and the chuck simply crumpled.

"That's how it's done, ol' buddy," I remarked confidently as I flipped out the empty. "No fuss, no muss. You've just seen what is known as a 'back of the ear' shot."

"Let's go out and make sure that chuck didn't die from concussion," my companion said in a defensive way.

As we walked the 150 yards to the chuck, I filled him in on some of the little tips I had learned about chuck shooting. He was silent, and I should have been. When we got to the chuck, my friend examined it closely and then began to laugh uproariously.

"That's really what's called 'back of the ear' shooting!" he exclaimed, pointing toward the chuck.

By this time, I was down beside the chuck, looking for the bullet hole. It wasn't directly back of the ear. In fact, it wasn't anywhere near the head. The bullet had struck the chuck on the last rib—at least seven inches from where I was aiming. My hunting buddy reminded me of that little episode for many years.

Church Business

Another time I should have remained silent was at a church meeting. A dozen or so men had come there to discuss some church business and to decide what they would have to eat at their next monthly meeting, just a week away. Everyone turned thumbs down on hamburgers, fried chicken, and spaghetti and meat balls; they wanted something different. After some thought, I whispered a few words to the minister.

He turned to the group. "We have a very generous offer this evening, gentlemen. Don Lewis has kindly consented to furnish us with some rabbits and grouse if we can get someone to clean and cook them," the min-

ister told the assembled group of men. "Gus will do it, won't you, Gus?" somebody spoke out.

"I sure will," Gus agreed, "and I'll make some special sauce to pour over the grouse. You fellows will really go for it."

I left the little meeting with an air of goodwill toward all men. I even accepted their generous praise for my ability to hunt and shoot. I could even hear them telling one of the custodians to see that my plate would be at the head of the table along with the minister's. How little it took to bring a moment of joy into the lives of a few men.

Some Kind of Kook

I wasn't too worried when Wednesday rolled around and I hadn't connected on either a rabbit or a grouse. Thursday was Thanksgiving, so I could put in a full day afield. But I didn't disturb a hair or a feather on that holiday, and I began to get apprehensive. Friday morning found me in the grouse woods at seven sharp. I got two quick shots but didn't connect. By noontime, I was desperate. I tramped every place I could think of for rabbits, but when I did get an occasional one up, I either missed or failed to get a shot. About 4:30, I managed to roll a rabbit on the second shot. When it began to crawl, I laid down my shotgun and ran toward the rabbit. I soon realized this was a mistake for the rabbit had picked up speed and was outdistancing me. I was in full gear, going down through an uncut hayfield in hot pursuit of the rabbit, when I saw a hunter.

"Stop that rabbit!" I yelled.

He must have thought I was some kind of kook, running through the fields without a gun yelling, "Stop that rabbit." I didn't know it then, but the rabbit had hit a chuck hole long before it got near the hunter. I didn't know what to say, and he studied me with a worried look on his face. I think I could have sent him home talking to himself by telling him my dog was on

top of the hill with the shotgun, waiting for me to circle the rabbit.

By quitting time, I was sick. I didn't have a single thing to show for nearly four days of hunting.

As we sat down to some rather burned hamburgers at the meeting, I was grateful that the minister didn't mention Gus's grouse sauce when he returned Thanks.

About 1950, I was in a railway freight station on the edge of town to pick up a package. Fifteen or 20 pigeons kept circling above us, and finally the old station agent got out a 22 rifle. He dug some shorts from a can of rusty nails and bolts and began taking shots at the sitting birds. I couldn't believe that anyone could miss such easy shots.

Another man, who entered after I did, recognized me and told the station agent who I was. I thanked him for the nice things he said about my ability to shoot. Hearing this, the old station agent thrust the rifle in my hands and told me to get a couple.

WHEN WE GOT TO the chuck, my friend examined it closely and then rolled on the ground with laughter. "That's real 'back of the ear' shooting!" he roared.



He pointed out that you had to wait until the pigeon was directly in line with the wide, thick rafters. These would stop the 22 bullet and would keep it from going through the new metal roof. I have no idea how old the 22 was, but I'm sure that somewhere on it, it said, "Return to the Quartermaster at Vicksburg." I finally got lined up on a cooing bird, but I forgot about the rafter deal. Things still might not have been so bad if I'd have hit the pigeon. But I didn't. I know a 22 bullet is less than a quarter-inch wide, but the hole it put in that tin roof let in bushels of sunlight. I forgot all about the pigeons as I stared at the gaping hole.

"That's what we call a miss," the old man said thoughtfully.

I guess that's what I'd call it, too. I've had some great moments with guns. I think I've pulled almost every boner in the book. But I've been seasoned pretty well by now. I know how to handle these situations better than I used to. What I mean to say is, I'm more cautious.

I'll have to close now. A fellow who owns a new greenhouse just phoned Helen and said he heard that I was really good with a shotgun. He's having some trouble with rats, and he doesn't want anyone in there who can't handle a gun. I can't blame him, I wouldn't want somebody in there who might shoot through the glass pane or ruin a lot of nice flowers either. Well, it's just another job in the life of a fellow who knows what he's doin' . . .

Just Lazy?

Female nighthawks do not build nests for their eggs. They lay them directly on gravel and depend upon camouflage for protection.

Book Review . . .

Eagles, Hawks and Falcons of the World

On rare occasions we receive for review a book which makes us wish we had ten times as much space, in order that we could do it justice. *Eagles, Hawks and Falcons of the World* is such a book. Or rather, such a pair of books. Sponsored by the National Audubon Society, these volumes by Leslie Brown and Dean Amadon, two of the world's leading ornithologists, are magnificent. In incredible detail they cover every phase of the life cycle of each eagle, hawk, falcon and vulture in the world, giving descriptions, habits, food, voice, range, and breeding habits, as well as the biology and classification of birds of prey as a group. Topics such as migration, flight, senses, hunting methods, speed, nest building, food requirements, and development and care of the young are covered in depth, as well as such esoteric data as wing loading tables and undulating flight displays. Though written primarily as a definitive reference work that simply will not become outdated, the text is highly readable as well as being informative. Browsers tend to lose themselves in it—aided by over 300 beautiful and scientifically exact illustrations, scores of them full color paintings by such recognized masters as Roger Tory Peterson, Guy Coheleach, C. E. Talbot Kelly and Don Eckelberry. This is an expensive set of books by some standards, but decades from now your grandchildren can be gaining as much information and pleasure from it as you. Few items can meet this criterion. (*Eagles, Hawks and Falcons of the World*, by Leslie Brown and Dean Amadon. McGraw-Hill Book Co., 330 West 42nd Street, New York City 10036, 1969. 945 pp. 8½ x 11 glossy paper, 311 illustrations. \$59.50.

Any Hunter Who Handles a Shotgun Fairly Well, and Tackles Grouse Hunting With the Right Formula, Will Take a Limit Almost Every Day Out. Here's How . . .

You, Too, Can Hit Grouse!

By Bob Carter

TWENTY YARDS downslope from me, Jim Ashton raised a hand to show he was ready. Uphill, our third gunner, my brother Ben, was also poised to hit this prime piece of western Pennsylvania grouse cover, a 100-yard-wide band of tangled grapevines and scrub brush flanking a quarter-mile of ridge top.

Warm October morning sun removed a tang of night chill as we eyed the day's first covert. I gave Jim a nod and he took two quiet steps into the jungle.

Three grouse exploded in a blending roar almost beside his feet.

Jim poked out the barrels of an aged, Ithaca 12-gauge double and neatly dropped the center bird in a cloud of feathers before it cleared the low brush. He started a swing on another, but the remaining pair made it





A GROUSE APIECE was enough to make this trio of gunners happy, though the Lab seems a bit bored by it all.

up and over in time to be screened by dense, hanging vines.

"Hey," Jim shouted, "you were serious about showing me grouse! I'm afraid to take the next step."

He eased up to where the young hen bird had kicked and fluttered a small pocket into the loose, underfoot leaves, picked up the morning's first grouse, and smoothed and admired its plumage before aiming it backhand into the game bag slot in the side of his coat.

"Better miss a few, now, James," I kidded. "You've got the rest of the morning to nail your other one."

And, before the morning was out, we were to collect an even half-dozen grouse—Pennsylvania's three-man limit—without dogs, and with relatively few wasted shots.

This is the kind of success any

hunter can expect when he takes grouse hunting seriously.

Yet, the fact is a relatively small percentage of grouse hunters collects better than 90 percent of the birds killed in Pennsylvania, or anywhere grouse are hunted, I'm sure. Not because they might be great shotgun shots, but because they have learned *how* to hunt grouse.

This simple but vital philosophy of grouse hunting was to be proved out on the early October hunt Jim had just opened so well.

Into the Grapes

Ready to go again, we moved quietly into the grapes. Just ahead was a heavy log that had been lying long enough to give male grouse a good spring soapbox from which to make harem advertisements. It remained a popular loafing spot in the fall, so I eased forward on the ready. Grapevines and greenbriers hung thick, forcing me to move slowly. I kept my Marlin 12-gauge over/under ready.

Sure enough, a bird flushed almost in my face, battering the vines to break clear. I ripped off a quick first shot and dropped him with a satisfying thump.

I signaled my hunting partners with a couple of low whistles and we worked on through the last 100 yards of tangle, spotting several hurtling grouse, but not long enough for shots.

"That looks good," said Jim, eyeing an open bench ahead. "But let's sit down for a little puff, first. Something's been bothering me this morning," he said, as we dropped to seats in the frost-curling leaves. "There aren't any other hunters out here! I know you guys aren't exactly sad about lack of competition, but where the heck are the hunters in country that's loaded with grouse?"

It was the second Saturday of the early season on ruffed grouse and squirrels.

"Don't get too worried, Jim," Ben said, "you just need a fill-in on the local hunting patterns. With squirrels

in, most of the hunters are sitting in big timber, rapping gray and fox squirrels. They aren't in this thick stuff because it's primarily grouse cover and they don't have great hope of getting grouse."

"No great hope?" Jim exclaimed. "We've had grouse going everywhere already!"

"Right," Ben replied, "but, remember, these hunters are used to rabbit and pheasant cover and local hunters tend to learn wingshooting on pheasants. They bump into grouse off and on, but don't hit very many because they aren't grouse-honed."

"Grouse-honed, huh?" Jim mused. "Let me ponder that one while we hit this juicy strip. Those birds might get tired of waiting."

Lining up again, we started a slow arc through the crescent-shaped bench, stopping every few yards for a minute or two. Nothing until we were approaching the end, then grouse started to go up.

The first bird broke for the open in front of Ben, who was guarding our right flank. He waited until it cleared a locust top, tipped him with the first barrel, then dumped him hopping and flipping into the wheat stubble.

Banged Both Barrels

Two birds flushed ahead of Jim. He banged both barrels of the Ithaca, then lowered his gun with a frown to watch the birds sail off the ridge and drop anchor finally in a pin oak thicket.

Smiling to myself at Jim's obvious chagrin in missing open shots, I stepped around the small bit of briars to flush a large bird that towered immediately to clear the 30-foot locusts. My quick shot got me a considerable shower of frost-burned locust leaves, then the zipping bird was peeling out over Ben, where he was crunched with a load of 7½s.

"Wait up," called Ben, "my first one is looking pretty lively out there."

Quickly, he went up and nabbed the bird.

A few yards over in the stubble Ben found his second bird.

"Shooting at pheasants as a kid doesn't seem to have hurt your brother's grouseing any," Jim jibed. "I think we better get busy, or he'll be making wise remarks."

With but a few yards to the fence, we crept forward, ears cocked for the first whirr of wings that meant grouse on the rise.

I peeked under a small red haw tree in the fencerow in time to see two grouse scoot out and jet into the air. Keyed by seeing them first on the ground, I had already centered my mind on the rear bird and a quick snap shot belted him so squarely that he dropped back into the fencerow weeds without a flutter.

Jim still needed one bird for his pair, so we put him on the high side of a draw, and Ben and I dove into the thick scrub oak choking the ravine.

AN OPEN-BORED gun with small shot, say 7½s, is fine on grouse in any gauge from 12 to 28, as most shooting is fast and at close range.



Ben yelped as one boiled out and headed across Jim's bow. The Ithaca came up and Jim centered the winging bird in the pattern and dropped it hard.

We walked over to where Jim was putting his second bird away and sat down for a needed pull on my small canteen. It was warm for October, and even our light cotton hunting shirts felt too hot under the shell vests.

Jim stretched on the ground with a pleased sigh and consulted his watch. It was 11:30. We had taken our six birds in two and a half hours.

"Great hunt," Jim said. "Now, tell me why it is you guys have this cover all to yourselves."

"Well, hunters have a variety of small game to go after in this area," I told him. "Most of them get started on rabbits and pheasants, and hunting sprinting ringnecks conditions them to rush the cover and make lots of noise."

"So we see more grouse because we trickle slowly through the cover?"

"Not necessarily," I said. "But we will see them *closer*, and we'll be balanced for good shooting because we're easing around thick spots in the cover

instead of blasting through it."

Jim and Ben began to field-dress the half-dozen birds.

"Does seeing them closer automatically mean we're going to hit a lot of grouse?" Jim persisted.

"No," I said, "but this is where that bit about being grouse-honed comes in. You can't go through grouse cover hunting for small game. You have to go through grouse cover hunting for nothing but grouse. Maybe this seems pretty obvious," I explained, "but when you watch hunters burning up a box of ammo without taking a bird, you know they must be doing something wrong."

Here's a set of guides that will put grouse in the bag:

1. *Think only grouse*—It's difficult to think only grouse in cover where squirrels, pheasants, and rabbits might also appear, but it's required for proper concentration.

2. *Hunt slowly*—By moving slowly through cover you will be able to keep better shooting balance, go more quietly, and hear grouse the instant they flush.

3. *Hunt quietly*—By moving through



cover quietly — actually, stalking unseen grouse—you will be able to hear them the instant they flush, you will get closer to them before they flush, and you will thus be able to get off a shot more rapidly.

4. *Don't bust the brush* — Part of hunting quietly is avoiding the rabbit-hunt technique of smashing into big tangles and brush piles. It's fine for rabbits, but will only give grouse a chance to flush when you are thoroughly buried in briars or vines. Almost every grouse you come near will flush if you're hunting *slowly*, even if you don't crunch any of the brush. Your stealthy attitude in *stalking* grouse makes them nervous, but fascinated, with your slow progress. Usually, they will sit tense as you approach, but fly when you ease really close and the pressure becomes too much.

5. *Be ready*—Lots of good shotgun shots do poorly on grouse because they won't admit they can't hunt with their shotguns at the waist or lower and hit grouse regularly. I hunt with my shotgun chest high and keep my left hand on the fore-end as much as possible.

6. *Shoot quickly*—A grouse is easiest to hit when he is in his first 50 feet of flight. While grouse aren't much faster than pheasants, they hit top speed much more quickly. That's why the previous rule—being ready—is so vital. There is about a half-second of prime shooting time when a grouse leaves the ground. After that it gets tougher and tougher. If you can be ready to shoot quickly most of the time, you can get off two good shots at a grouse, inside 40 yards.

7. *Light shot open choke* — To increase your chances further of dropping more of the grouse you shoot at, stick to light shot—size 7½ or 8—and go with an improved cylinder bore—modified at the tightest. My over/under for grouse shooting is improved cylinder and modified.

Almost any of these rules, considered separately, sounds tremendously obvious, yet, taken together and followed firmly, they mean more grouse in the bag.

Next time you go into grouse cover, whether you've been getting your share or not, watch the guys who are missing grouse. They'll be peering at squirrel nests, talking loudly, wading through big brush piles, and whanging away about a box of shells.

When day is done, they'll have a couple squirrels, maybe, but probably no grouse. They will say, "Those grouse sure are hard to hit. Every time I get in the middle of the thick stuff, they go out with a tree in the road! I'm gonna quit hunting grouse and stick to something that isn't so wild."

Ever hear that lament?

Stick to slow, easy, ready grouse-stalking and you'll not complain anymore. You'll be too busy cleaning grouse.

At lunchtime that day, when Jim, Ben and I stopped for gas, the young attendant spied our birds in the back end of the station wagon. "What kind of birds are those?" he asked.

"Plain, old grouse," Jim said, winking. "They're easy to get around here. All you gotta do is sneak out and surprise 'em."

Two Layers of Bark

Trees have two layers of bark—the inner bark, which carries food made in the leaves downward to cambium and storage cells, and the outer bark or inactive cells which provide protection for the inner bark.

Breathes Deeply

The average bird requires eight times more oxygen when flying than when at rest.



MUCK
RIPPER

It Was to Have Been a Day of Turkey Hunting, but the Rain Interfered. Now, I'm Glad It Did, for I Made a New Friend and Learned How an Old Friend Once Turned His Day . . .

From Tears to Smiles

By W. W. Britton

THE GRAY'S RUN hunting lodge is located along Gray's Run in Lyscoming County. To be invited to hunt on their property is an honored privilege. Their holdings encompass around 6000 acres of excellent timberland. Deer, grouse and squirrels are always present, bear and turkeys are common. On some of the larger beechnut trees, one can observe an old bruin's claw marks. Raccoon tracks may be seen along the stream, where they search for aquatic animal life. In the deeper pools beautiful trout dart here and there to avoid the onlooker. On the artificial pond just below the clubhouse, buffleheads often glide over the surface at a casual pace.

The last time I was there, the butter-colored leaves which had festooned the hickory trees were beginning to fall. The oaks were depositing their acorns into Mother Nature's lap. Many would be consumed by wildlife, but those they missed will sleep beneath a blanket of leaves until spring's warm sunshine and rains speak to them in nature's language, telling them it is time to awaken. They will send forth that tiny sprout which, in time, will contribute to the reforestation of the hills and hollows where their ancestors held sway for many generations.

I arrived in the afternoon of the day before turkey season opened. I thought it a good idea to scout Mill Hollow for signs of turkeys. I found more than sign. Five beautiful turkeys crossed the hollow before me and continued to the fields where Mill Hollow ends. Would I see them tomorrow? I was satisfied I would, but much depended on the weather. If it rained I would be

out of luck, because the tendonitis in my left arm and shoulder would not permit me to get wet. I did not want to be laid up for the rest of the hunting season. There was a time in my life I preferred to hunt on rainy days, but after retirement age we are prone to aches and pains which are aggravated by damp or rainy weather. I started looking for some form of shelter in case it rained. Such places are usually not too plentiful. To the right of a well-worn path in Mill Hollow was a huge rock which extended above the ground. Perhaps I had found what I wanted. Stooping a little, I could get under the rock. Tomorrow I would not get too far from it in case it rained. The overcast sky had me worried.

Enjoyable Evening

Returning to the lodge I prepared for dinner. Later in the evening other turkey hunters began arriving. When all were settled, my host insisted I give a little demonstration on my turkey caller. This caused others to get their callers out. Some were pretty good at it. We had a very enjoyable evening before the huge fireplace where the flames licked at the sides of the blackened stone enclosure.

After the story-telling hour I stepped outside to observe the weather. A light breeze was coming from the south. This was not good. The weatherman had not predicted rain, but I was still apprehensive. With fingers crossed, I retired.

Shooting time was 9:00 a.m., so there was no need to arise at the usual hour of 4:30. About 6 a.m. the cooks

started stirring around in the kitchen. I met my host in the kitchen. He was flexing his muscles and yawning. "What's the weather like?" he asked.

"No rain yet," was my answer.

After eating a lumberman's breakfast we decided to drive around to see what we might see. Our guns were left at the lodge. "Temptation's hidden snares often take us unawares." That phrase I had heard sung by the United Brethren choir in my old hometown when I was a boy. However, I am positive we could have overcome any temptation which may have presented itself. I know the average hunter likes to feel he is law-abiding. To be otherwise is pure folly.

Less than fifteen minutes after we started out, twelve nice turkeys crossed the road ahead of us. This sent our hopes spiraling. The big birds were not in any great hurry. We stopped and watched them cross Gray's Run and proceed up the mountainside in the direction of Mill Hollow. It was still an hour before shooting time. Continuing on we saw several gray squirrels. At a quarter of nine we were back at the lodge donning our hunting gear.

The light fog had begun to rise. It was then I thought of the old axiom, "When the fog goes up the rain comes down." I couldn't bring myself to think positively. In spite of it, I headed

for Mill Hollow and the projecting rock. It was well I did. First a light drizzle. Then a downpour. My shelter I soon learned was not as waterproof as I had hoped. Water kept dripping down on my cap and shoulders and some down my neck. When the shower started to wane, I headed for the lodge at a speed that would have put a Tennessee walking horse to shame. Fortunately, I was not very wet.

Turkey Talk

A half-hour later another hunter returned. He was really soaked. This man had arrived at the lodge after the rest of us had retired the night before. We had never met. Once he had removed his water-logged hunting outfit, he introduced himself and we began to talk about hunting turkeys. It is possible both of us stretched a point here and there to add a little color. Without this, a conversation might become dull. The average seasoned hunter and fisherman expects this sort of thing and often discounts everything a little anyway. In the end it makes no difference.

In one of my stories I mentioned Franklin County, where a half-century ago wild turkeys were so plentiful they were falling over each other to get at the chestnuts which literally covered the forest floor.

This caused my new acquaintance to perk up. "Are you from Franklin County?"

I assured him I was.

"I attended Mercersburg Academy."

"Well, then, you must know an old friend of mine," I said, and named him.

"Know him! Let me tell you how I met him." My new acquaintance then told me the following story:

When he was fifteen years of age his parents decided he should attend Mercersburg Academy in preparation for college. The first week he was there, he rarely thought of home. But the second week was a different story. He had never been away before. He



started to think of home and the pals he had left behind. By the end of that week he was so homesick he didn't know what to do. It took a great effort to keep the tears back.

On Sunday morning he was really in bad shape. He started to walk out into the country, because he knew what was coming. Leaving the campus he walked clear to the end of a big wheat stubble field, climbed up on an old rail fence and sat there sobbing. Tears were running down his cheeks. Shortly, he heard a rustling sound behind him. Turning around, he saw a tall, lean and lank man wearing hunting clothes and wrapped leggings. A beautiful young pointer was quatering the field beyond.

The tall man looked at the boy for some moments without speaking. If he noticed the tears, he gave no indication of the fact.

The young man was somewhat ashamed of his tears, but was quickly put at ease. "I assume you are one of the new students at the Academy?" the tall man asked.

"Yes, sir."

"Do you like to hunt?"

"Yes, I do."

"Do you have a gun?"

"Yes, at home."

"Then," the man said, "write to your parents and tell them to send it to you. Tell them you are going to hunt with one of the professors."

Homesickness Disappeared

The youth's homesickness disappeared and never returned. He had visions of great days afield with the professor. Life took on a different meaning. He had been rescued. Walking back to the campus that day he looked to the west and saw the Tuscarora Mountains. They had never looked more beautiful. The coloration of the leaves made them resemble a giant Persian rug. Hurrying to his room, he wrote home for his gun. When hunting season opened, the professor kept his promise. At every op-



portunity the two were together in the fields and mountains. The professor's guidance and example revealed many of nature's secrets to the boy and, most important of all, taught him the necessity of being a true sportsman.

"That professor was Dr. Archibald Rutledge," my new acquaintance told me. "A great humanitarian, one of the country's finest outdoor writers, a sportsman and a friend. I visit him at every opportunity. Some years ago I went to visit him at his home in South Carolina.

"There is no doubt in my mind that he saw me leave the campus that Sunday morning in 1914, and followed me in a roundabout way to make it appear he came on me by accident. In his long tenure at the Academy he must have had similar experiences with other new students and extended a much needed friendship at a critical time."

My new friend sat back in his chair, gazed out the window silently, still lost in memories. I relaxed too, turning over his story in my mind, gaining quiet satisfaction from it. Now I was glad it had rained that day, though I'd been anxious to hunt earlier. I had found a new friend. One who liked to hunt the greatest of all game birds, the wild turkey . . . and who was friends with a friend of mine.



Bagging a Bear Is an Event a Hunter Never Forgets. It Is Usually the Highlight of His Hunting Career. So There's No Doubt That a 521-Pounder Makes the . . .

Trophy of a Lifetime

By Steve Szalewicz

"THE RIFLEMAN" of TV fame, who scored with fantastic accuracy firing a 30-30 rifle from the hip, should move over. A single 30-30 bullet, fired from the hip by Air Force S/Sgt. Alan J. Gatesman on the final day of last year's bear season, instantly dropped a running 521-pound black bear, one of the finest trophies ever taken in Pennsylvania.

But let Sgt. Gatesman, who returned to his native Lucinda, Clarion County, from his station in Dover, Del., for the deer season which was to open in a few days, tell the story:

"Early on November 30 I decided to hunt the woods near Lucinda after a bear I had heard was in that area. The Pennsylvania Game Commission, I was told, had trapped a huge bear in that general area in October and there were reports the animal had returned from the point of its release on State Game Lands 74, about 15 miles away.

"There were four others in the hunting party—my father, Omer Gatesman, two brothers, Paul and Tom, and a cousin, Thomas L. Gatesman.

"It was a clear, brisk day, and when by 1:30 p.m. we had not seen one wild animal, we decided to split up and cover more ground. A few minutes later I was standing in a clearing about midway up a hill when I heard shooting in the pines above me. Then

I heard a thumping noise behind me, turned, and to my amazement saw a huge black bear running toward me. It was only a short distance away.

"I honestly don't think the bear was coming after me, but rather running from the shooting I had heard previously. Nevertheless, I didn't want to take any chances, so I instinctively shot hurriedly from the waist to turn him. I quickly reloaded, but didn't fire again. The bear had fallen. The only movement it made was that of trying to roll over.

"I didn't move for a couple minutes. I was watching to make sure it didn't stir anymore. Then I cautiously walked up to it, rifle ready. That was when I noticed my 170-grain bullet had entered right above the eye and penetrated into the brain.

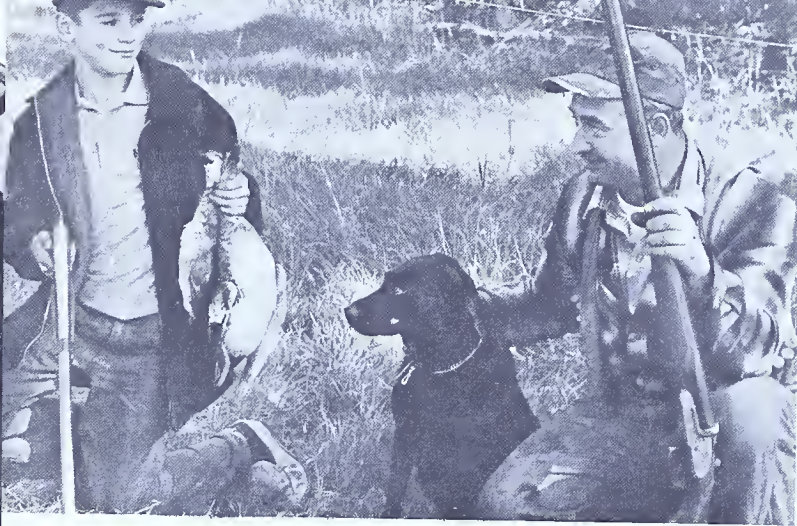
"A few minutes later the rest of the hunting party came to investigate the shooting. We established the bear was only 10 yards from me when I shot. We dragged it out of the woods—luckily downhill—to a pickup.

"At Pfendler's Meat Market it weighed 521 pounds live weight and 461 pounds field-dressed."

Comparatively few hunters ever bag a bear of any size. To get one the size of Sgt. Gatesman's, particularly under the unusual circumstances described, is almost a unique event. This bear was truly the trophy of a lifetime.

Pennsylvania Bear Facts

In 1905, Pennsylvania became the first state to protect black bears. In 1911, the use of steel traps for taking black bears was forbidden, and in 1915 pens and pitfalls were prohibited. The use of dogs for hunting or chasing bear was prohibited in 1935, and the penalty for unlawfully killing a bear was increased from \$100 to \$200 in 1949.



This

NOVEMBER is the month to offer than any other and September may be near-fluorescent pheasants tails that circle endlessly, teetering in the hickories, ducks, geese, turkeys, so for the riflemen who turn sport. Now is no time to





ember

ers wait for. It has more
y have chucks and crows,
but November has those
sh in a bare field, cotton-
d beagles, squirrels chat-
wild grapevines, quail,
or doves—and even bear
ntains for their favorite
his is November.





FIELD NOTES



Whoa, Now!

BERKS COUNTY—Recently I set a rather unusual record. While examining a tract of land in the Blue Mountains, I approached the marker where Berks, Schuylkill and Lehigh Counties join on a rocky ridge. As I put my hand on the marker and stepped around to the Lehigh County side, I heard the stirring sound of a rattlesnake. Looking down, I saw the snake backing away from the marker. My first step took me from Lehigh to Berks County and the second step landed me in Schuylkill County. I wouldn't say I was scared, but I don't know of anyone else who traveled across two counties when surprised by a snake. —Land Manager S. C. McFarland, Centerport.

The Wild Bunch

CUMBERLAND COUNTY—Much to my surprise, I recently encountered a covey of quail on the very top of the South Mountain, a good five miles away from the nearest farmland.—District Game Protector D. R. Smith, Shippensburg.

More Pheasant Country

FRANKLIN COUNTY — Talking with several cooperators in our Farm Game projects in this county, I have been told there is an unusually large number of pheasants this year. They tell me they are glad to see the pheasant population on the upswing. Several also told me to let sportsmen know about this condition. We have four Farm Game projects, consisting of several thousand acres of land, open to hunting. Quite a few landowners will welcome the hunters with open arms. Let me suggest that, even though you know these farmers are cooperators in a Farm Game project and the land is open to hunting, anyone wishing to hunt these lands ask permission from the landowner. This is not a must, but most farmers like to see who is hunting on their land and really appreciate it when a hunter thinks enough of someone else and his property rights to ask permission. I don't think you will have any trouble finding a place to hunt after an approach such as this.—Land Manager D. L. Stitt, Chambersburg.

Beats Swimming

BEDFORD COUNTY — I recently received a letter from Mrs. John McIlnay of Hopewell telling of something she saw one day while driving from Loysburg to her home. A swinging bridge crosses Yellow Creek in the Loysburg Gap and Mrs. McIlnay observed a groundhog making use of this bridge. As she says in the letter, "It just goes to show that groundhogs are intelligent too!"—District Game Protector C. J. Williams, Bedford.

Ha, Ha, Ha!

WASHINGTON COUNTY — After talking to a middle-aged lady about the good quality material in **GAME NEWS**, she finally told me that of all the articles in the magazine, she enjoyed the jokes the best. This caught me off guard a little and I asked her to show me where the jokes were in a recent issue. Turning to the Field Notes, she said, "Here they are, and I think they are funnier than cartoons." I thought this very amusing and we both got quite a chuckle from some of the items.—District Game Protector F. K. King, Canonsburg.

The Key—Education

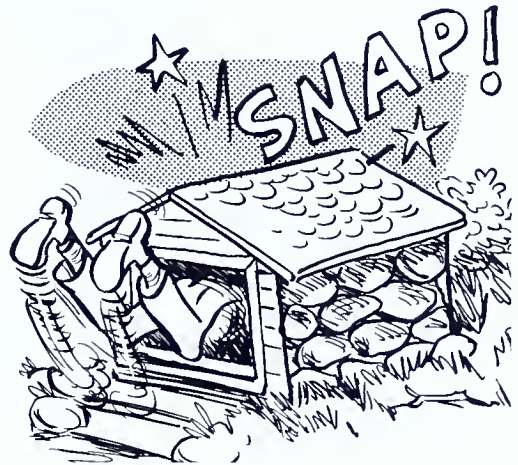
VENANGO COUNTY — It is not difficult to appreciate the fact that education of the people requires our greatest effort. We must strive for it in conservation of our natural resources. I manned an exhibit for the Pennsylvania Game Commission recently, and a live beaver was displayed. The remarks and conversation about the animal were amazing. As popular as this animal is, there are sure a lot of people misinformed. Comments included: "How did its tail get so flat?" "It has no neck, it's all body." "How would you ever make a coat out of that animal?" "I didn't know they were so small" and, "I didn't know they were so big." It weighed about 30 pounds.—CIA R. D. Parlaman, Franklin.

Really Motivated

ERIE AND CRAWFORD COUNTIES—I have, without a doubt, two of the fastest, most athletic Farm Game men in the division. One became a high jumper when the electric fence he was crossing slipped off a hammer handle, the other, a sprinter. (He is the one who was holding down the electric fence the high jumper was crossing!) —Land Manager J. C. Hyde, Townville.

Pressing Her Luck

LUZERNE COUNTY — Mrs. Frederick George of Conyngham had put some food for her housecat into a pie dish on the back porch. Later, as she was taking some trash to a can out back, she stepped on the edge of the dish and saw a movement. Thinking her black-and-white cat was trying to get back in the house, she pushed it aside. As her eyes became more accustomed to the darkness, she saw she had not pushed the housecat aside but rather a skunk! Without a sound, Mrs. George backed to the door and the uninvited guest backed to the edge of the porch without leaving his calling card. I bet she couldn't do it again!—District Game Protector R. W. Nolf, Conyngham.



Ouch!

PERRY COUNTY—Recently I was called to investigate a damage complaint involving sweet corn. Upon checking, it was determined that the guilty party was a family of muskrats using the farmer's springhouse for a winter storeroom. After setting the usual jump traps for almost a week with no results, we had to resort to Conibear traps. The result after two nights with three traps: four muskrats, one frog, one bluegill, and one Game Protector's left thumb, when the trap tripped while setting one of the traps! —District Game Protector J. F. Serfass, Jr., Loysville.

Good Question

BLAIR COUNTY — Recently, when a young couple set up their mobile home in a wet area, they complained about the beaver that had built a dam many years ago. They wanted the beaver dam removed so the area would be dry. So pressure was put on the landowners and the dam was drained (after nine attempts). The trailer is still in a wet area but wildlife suffered greatly. The beaver lost their home, ducks that frequented the area will leave, muskrat will pull out, mink will follow, the pure water that held trout will turn brackish, swans, geese and waterfowl of all sorts will no longer use the area. How long can wildlife stand the encroachment of unthinking men?—District Game Protector P. L. Miller.



Deadly Digit

BRADFORD COUNTY—One evening at dusk, John Parsell, a local sportsman, and I had just finished tearing out a beaver dam when two mallard ducks flew overhead. John instinctively pointed his hand like a gun and said, "Bang." At that precise moment, one duck folded up and fell to the ground. John had the most surprised look and I in turn began to question him on the number of shot he was using in his finger. On a closer check we found the duck had flown into a wire.—District Game Protector W. Bower, Troy.



The Last Straw

MERCER COUNTY—It could only happen at fairs. Questions like the one from an eight-year-old boy. He wanted to know who fed the rattlesnakes and said he wouldn't touch them with a 10-foot pole. Then there was the kid who asked if snakes smiled. This all happened after the two wild turkeys got out. Then there was the young man who wanted one of the baby opossums for a pet. And to top it all off, there was a man who said he was a hunter and had never heard of Pennsylvania GAME NEWS! Why, I never heard of such a thing.—District Game Protector B. K. Ray, Sheakleyville.

Nice to See

CUMBERLAND COUNTY — During the past several weeks I have noticed an increasing number of American egrets on both the Yellow Breeches and the Conodoguinet Creeks. The other day, standing in one spot I could count as many as 12 of these beautiful birds along the shore of the Conodoguinet.—District Game Protector J. P. Filkosky, Mechanicsburg.

Gourmet?

CAMBRIA COUNTY — The latest damage complaint I received was that a raccoon was damaging carnations at a local greenhouse. — District Game Protector L. D. Mostoller, Johnstown.

Get Him Back—Quick

CLARION COUNTY — We have often heard the remark, "You can take a boy out of the country, but you can't take the country out of a boy." I am beginning to wonder now. We lived in the country all of our lives until just six months ago, when we moved to town. Recently, our 5-year-old son was visiting a farm and upon seeing a large bin of wheat in the barn, he turned and made the remark, "Look at all the bird seed." I think we had better move him back to the country.—District Game Protector L. L. Harshbarger, Knox.

Ingenious

SUSQUEHANNA COUNTY—While picking blackberries along a road on State Game Lands 35, Jeannette MacGeorge of Lakeside had an experience she will not soon forget. She was picking on a bank close to the road when she looked down and saw a large rattlesnake lying within striking distance. Not daring to move, she instructed her daughter, who was waiting in the car, to drive opposite the snake and race the engine in an effort to divert the snake's attention. The daughter does not know how to drive. After what Jeannette swears was at least 15 minutes of spinning and jerking, the car finally was turned around and positioned near the snake. Sure enough, it turned its head toward the commotion and Mrs. MacGeorge hurried away.—District Game Protector D. G. Day, Hallstead.

Looking for Tips

FOREST COUNTY—Mrs. Richard Crise, who lives in the North Pine Grove area, heard something at the window. Looking up she saw a deer rubbing its nose on the window and watching her. It was a doe, so possibly a new homemaker. — District Game Protector D. Gross, Marienville.

Are You Sure?

WESTMORELAND COUNTY—On this job you sure get some wild calls on wildlife from all kinds of people, so when I came home the other night and my wife told me that a man and his sons had picked up a South American vulture, still alive, on a back road. I just grinned and said, "Sure they did." The next morning, all ready to see just a plain turkey vulture, I went to my deputy's home, where he had the large bird in a cage. His wife first showed me the picture in an encyclopedia and then the bird. Sure enough, a beautiful South American vulture. I know road kills ripen pretty fast in the hot sun of summer, but I sure didn't figure that the smell would carry to another continent!—District Game Protector S. E. Lockerman, Murrysville.



Coulda Offered a Cookie

SCHUYLKILL COUNTY—A recent incident did not seem humorous at the time, but after giving it some thought I find myself chuckling. While out at night on a law enforcement assignment, I was curled up in a sleeping bag in a small grove of pines. I had just poured myself a cup of hot chocolate and started to munch on some cookies when a skunk wandered up. As it were, I could not move or shoot it or use any vocal encouragement to get it out of the area. Luckily for me, it decided to leave of its own accord.—District Game Protector P. G. Piechoski, Tamaqua.



Not Picky

LACKAWANNA COUNTY—While attending to numerous beaver damage complaints over the years, I have noticed the various material that these animals use in constructing their dams. Along with such natural materials as brush, logs and sticks, these aquatic mammals will also utilize just about any other objects that happen to be handy. Bottles, pots and pans, jars, old boards, and many other man-made objects will be used in the construction program. Recently, I removed a beaver dam in Greenfield Township and was quite surprised to dig out a complete rod and reel the beavers had placed in the structure.—District Game Protector J. Altmiller, Clarks Summit.

Ain't It the Truth

ERIE COUNTY — Recently, after settling a case with a man on a Game Law infraction, a "friendly" conversation ensued, the gist of it being, why do some people violate laws, especially those dealing with conservation, etc.? There was a great difference of opinion between myself and my opponent. However, I must admit that he did get the last word by stating as he walked out the door, "Well, all I know is that if it weren't for people like me, there would be no need for people like you."—District Game Protector R. Sutherland, Wesleyville.

Supervision Needed

ERIE COUNTY — It is important that parents of young children keep all guns and ammunition under lock and key and then make routine inspections. An 11-year-old lad in my district hid a 22-caliber rifle in his sleeping bag when his parents took him and a 12-year-old cousin on a camping trip. The two took a hike with the rifle and shot a number of domestic ducks on a beaver pond. No one saw them shooting the ducks. It took as much police work to trace and learn the identity of the lads as if they had been adults. Their parents were not pleased to pay for the ducks that were killed and now the guns are really locked up. I'll bet the next time the parents of the 11-year-old let him go out of the house with a sleeping bag, they will give it a good inspection. — District Game Protector E. Simpson, Union City.

Fooler

CRAWFORD COUNTY — At the wildlife exhibit at the Crawford County Fair, we had a cardboard box on the table in front of us. On the lid was printed "Baby Rattlers." What an eye-catcher it was! No one could pass by without displaying a great, if sometimes apprehensive, interest. When we lifted the lid and they saw the plastic baby rattles, the reactions were hilarious.—District Game Protector W. E. Lee, Titusville.

Our Kind

VENANGO COUNTY—Many times sportsmen are confronted with "No Hunting" signs while other types of recreation are permitted upon the same property, but in one area of Cranberry Township, the Oil City Cycle Club posted their ground with "No Trespassing" signs but below each one is a big sign reading "Hunting Permitted."—District Game Protector L. Yocum, Oil City.



CONSERVATION NEWS



Stop at a Deer Check Station

FOUR DEER CHECKING stations again will be in operation in Pennsylvania this year, according to Harvey A. Roberts, Chief of the Pennsylvania Game Commission's Division of Research.

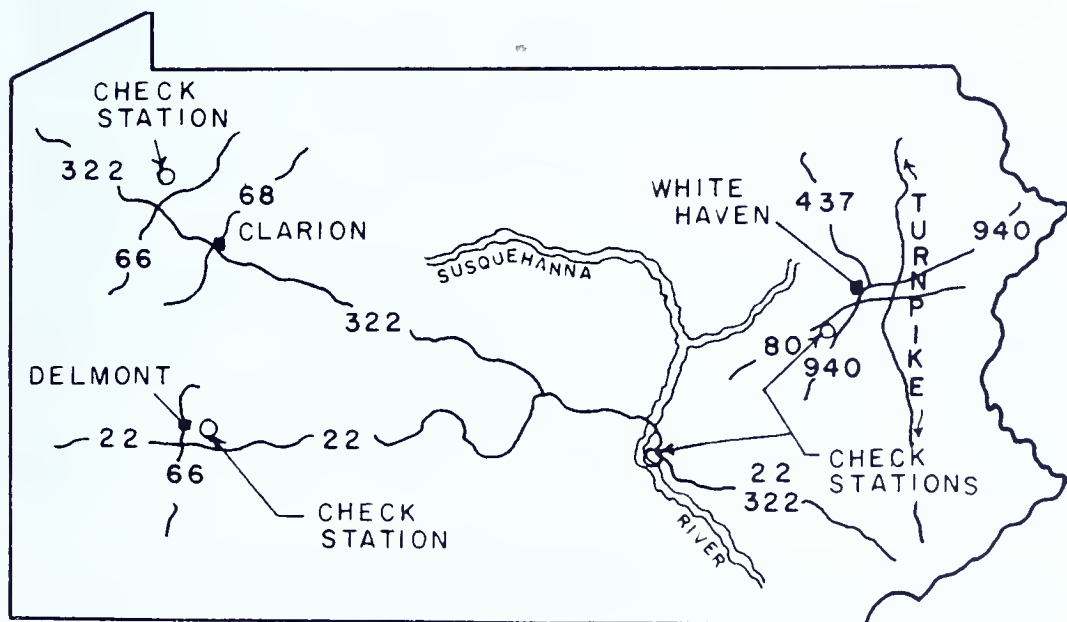
Information collected at these stations is valuable in improving deer hunting in the Keystone State. It is hoped that every successful buck hunter who can stop at one of these stations will do so. Data assembled through examination of these deer reveals many facts to wildlife biologists—the condition of the deer herd in various regions of the state, the condition of the range, etc. This is vitally important in helping the Game Commission set seasons and bag limits which provide the optimum amount of sport for the greatest number of hunters.

The four stations will be operated at least the first three days of the antlered deer season, beginning December 1.

Successful hunters who stop at a check station will see how the age of their trophy is determined.

Two location changes have been made. The northwest station is now located on Route 66, about three miles north of its junction with Route 322, on the road to Lucinda. The northeast station is now at the roadside rest on the eastbound lane of Route 80 about two and one-half miles west of White Haven.

The central station is 13 miles north of Harrisburg on Routes 22 and 322 just off the east end of the Clarks Ferry Bridge. The southwest station is near Delmont, on Route 22 just east of its intersection with Route 66.



Minimum Age for Game Protectors Is Changed

The minimum age for Game Protector applicants has been established at 22 years, the Pennsylvania Game Commission announced. Previously the minimum had been 23 years. The maximum age remains at 35.

Other basic eligibility requirements are:

Applicants must be citizens of the United States and residents of the Commonwealth. The applicant must be a high school graduate or have a G.E.D. equivalent certified by the Pennsylvania Department of Education.

Each applicant must be at least 5 feet 8 inches tall, but not more than 6 feet 5 inches, without shoes. Weight must be between 140 and 215 pounds, in proportion to height and body frame. Vision requirements are 20/40, each eye, without corrective lenses. Normal hearing perception is required,

as well as possession of a current, valid Pennsylvania automobile operator's license.

The future game conservation officers undergo an 11-month training program, much of it at the Game Commission's Training School located near Brockway in Jefferson County. Classroom instruction is interspersed with practical on-the-job training in which the trainees work with experienced field officers. Major subject materials included in the course of instruction are wildlife management, law enforcement methods and procedures, legal procedures, land management practices, tree and shrub identification, public relations, public speaking, and self-defense and physical training.

Training for the next class is expected to start in March, 1970, and conclude in February, 1971.

Sportsmen Urged Not to Litter

Pennsylvania sportsmen are urged by the Game Commission to help insure the future of hunting by exerting every effort necessary to make 1969 seasons litter-free. Growing awareness of the litter problem makes this year an opportune time for hunters to cast themselves in a new mold and to regain public confidence shaken in the past by the senseless and thoughtless acts of a few persons unworthy of the designation "sportsmen."

Discarded lunch wrappers, beverage bottles and cans, ammunition boxes and the like are a blot on the fine record compiled in the past by sportsmen. Why should a landowner permit hunting when the intruder uses the property as a depository for trash which draws vermin and is disgustingly unsightly? Littering on public property is just as bad or worse, because this is an offense against all of society and everyone has to pay to help clean up the mess.

Hunters are reminded that they face \$25 fines and possible loss of licenses for leaving or depositing garbage, bottles, cartons, containers, glass, paper or other rubbish or debris on lands open to public hunting.

Sportsmen can take the lead in the war on littering and show the general public how civilized beings should act.

Gotta Have Heart

Heartwood, located in the center of a tree, is a series of inactive cells which add structural support to a tree.

Perry County Man Is Turkey Calling Champ

A Perry County sportsman, Chester L. Lesh of Ickesburg, is Pennsylvania's 1969 turkey calling champion.

Lesh received the beautiful winner's trophy and a cash award at the fifth Pennsylvania State Turkey Calling Contest held August 23 at the Franklin County Fairgrounds.

Finishing second in the contest was Edward J. Cox of Lock Haven; third was James P. Bressler of Williamsport; and the fourth place finisher was Harvey R. Graybill of Camp Hill, the 1968 state champion.

The second, third and fourth place finishers all received cash prizes.

About 1,000 spectators turned out for the contest. Fifteen top callers participated.



PGC Photo by Roy Trexler

TOP FOUR TURKEY CALLERS—Chester Lesh, left, Edward J. Cox, James P. Bressler and Harvey R. Graybill. This contest is becoming more popular each year, as interest grows in hunting this outstanding game bird.

Guns Rate Low in Accidental Death Study

A recent study of the causes of accidental deaths in 19 different countries shows that only 1.3 percent were attributable to firearms, according to a report compiled by Dr. Ross A. McFarland of the Harvard School of Public Health.

His findings show that the largest number of accidental deaths, 36 percent, involved motor vehicles, while falls accounted for 22.1 percent. Drownings accounted for 8.6 percent and deaths from other means of transportation totaled 6.2 percent.

Fires and explosions have only 4.6 percent, poisoning 3.8 percent and miscellaneous "other causes totaled 17.4 percent."

"It must be a disappointment to the anti-gun people to find out that firearms are responsible for only 1.3 percent of the deaths," a gun-owning sportsman noted when informed of the report. "It is the lowest of all causes of accidental deaths compiled in the study."

Farm-City Week, November 21-27

The week of November 21-27 has been declared Farm-City Week for 1969. For more than a decade, this week has been sponsored in Pennsylvania by a state committee of 50 statewide organizations in cooperation with the National Farm-City Week Committee. The objective of Farm-City Week is to develop a fuller recognition of the interdependence of our farm and city people. This year's theme is "Farm-City—Partners for Better Living." Civic clubs, churches, schools, youth groups and other local organizations are encouraged to take the leadership in organizing Farm-City Week activities. For information contact your local County Agent, Soil Conservation Service, Farmers Home Administration, or Agricultural Stabilization and Conservation Service representative.

Bear Skulls Needed

By James S. Lindzey, Ph.D.

**Leader, Wildlife Research Unit
Pennsylvania State University**

THE BEST source of much data on Pennsylvania bears is obtained from animals taken during the hunting season. Some information is also obtained from nuisance bears captured in live traps or killed on the highways and from a few bears examined and marked annually by research workers.

Our present position in bear management might be likened to a stock owner who didn't know how many cattle he had in a large pasture nor the age or sex of the animals. It would be difficult for him to determine how many animals could be sold off without interfering with production from the herd. The present basic need for bear management is information on the age of bears in the population, how far bears normally move, and what their habitat requirements are.

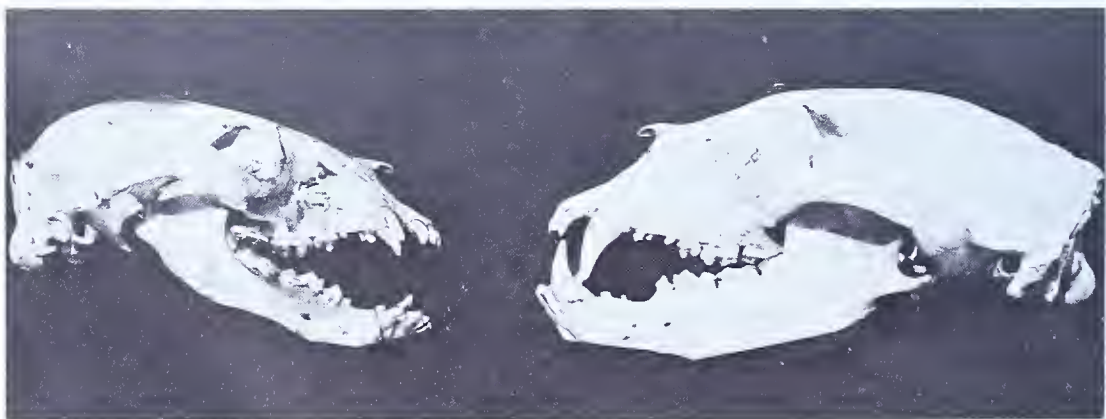
If we can obtain skulls from bears taken in the state, we can determine the animals' ages by examining a canine tooth. It will be important also to know the sex of the bears and helpful to know the bear's weight and location of the kill. On any bear that is tagged or has a tattoo on his lip, ear or inside of the leg, it is even more important to provide complete information on weight and location where taken, because it will help to determine movements and growth rate.

Studies of the food and cover conditions have been made in the Wycoff Run study area of Quehanna and in the Frytown study area of Lackawanna County. In the Lackawanna County area, researchers are currently

capturing, weighing and marking bears. It is particularly important to examine any bears killed in these areas, to check for tags, weight changes, etc., so we can get as much information as possible about bears using the study areas and the numbers harvested by hunters. The Wildlife Research Unit will operate checking stations in both areas during bear season, and it will be helpful if hunters will bring their bears to the station for examination. Anyone bagging a female bear is requested to save the reproductive tract to help us determine the rate of production of cubs and the age at which successful breeding occurs in females.

In short, we need skulls from all animals taken to evaluate our bear population—the more skulls, the more dependable the sample. Other data such as weight, sex and kill locations will make the information much more valuable.

We have a good reason to be concerned about the ages of the bears being killed. It is probable that females will have their first young at about four years of age, possibly at three. Thus, if we are harvesting most female bears before they become four years old, we can't expect good cub production. In general, as the harvest becomes more intense the number of older animals taken diminishes. On the other hand, if total harvest remains about the same annually and it is well distributed into the upper age brackets, it may be assumed that the harvest level is satisfactory and not jeopardizing the future bear population.



More on Dichloro-diphenyl-trichloro-ethane

WISCONSIN Senator Gaylord Nelson recently released the results of a two-year national pesticide study by the Bureau of Sport Fisheries and Wildlife which found DDT in 584 of 590 samples of fish taken from 45 rivers and lakes across the United States. Nelson said the study "confirms that there is accelerating pollution of the environment by hard pesticides and is further evidence to confirm Rachel Carson's assertion in 1963 that there will be an environmental disaster unless this is quickly brought under control."

Study results showed DDT ranging up to 45.27 parts per million (ppm) in whole fish, a count more than twice as high as that found in Lake Michigan Coho salmon seized recently by the U. S. Food and Drug Administration as being unfit for human consumption, and nine times higher than the FDA interim tolerance level for fish.

"These accumulations are a threat to the future of our fish and wildlife, and have ominous implications for the health of man," Nelson said in a statement from the Senate floor announcing the study results. He noted that pesticide poisoning has already put the peregrine falcon, the bald eagle and certain marine life on the verge of extinction.

Commission Proposed

Senator Nelson has sponsored legislation since 1966 to ban the interstate sale and shipment of DDT and has recently proposed a permanent National Commission on Pesticides to review, monitor and research pesticides. Sweden, and the states of Michigan and Arizona have already banned DDT.

The Wisconsin Senator said that the Bureau of Sport Fisheries' findings are "quite consistent with the state-by-state pesticide survey conducted by my office. At least a dozen states have reported pesticide residues in fish above the Government's recommended safe level of five parts per million."

The Bureau study found that in 12 of the 44 lakes and rivers, DDT in some or all of the fish samples reached levels higher than the five parts per million guideline limit set recently by the FDA for fish. Mean DDT levels for the latest samples exceeded this limit in fish taken from eight of the rivers and lakes. The highest DDT counts were found in white perch taken from the Delaware River in the heavily populated northeastern United States.

Dieldrin More Toxic

The study also found dieldrin, a pesticide even more toxic to humans than DDT, in fish from 15 of the rivers and lakes reaching levels higher than the .3 part per million FDA guideline limit for this pesticide in fish. Dieldrin was highest in yellow perch taken from the Connecticut River, and high in Delaware River fish. However, this pesticide was also at high levels in a number of rivers throughout the south, as was DDT, although high counts were in other rivers in the east, midwest, and west as well.

Nelson said he obtained a copy of the study after a recent formal, written request to the Bureau and after learning the report's basic findings from independent sources. It had not as yet been made public, although plans had been made for its release later. The data for the study were obtained from fish taken at 50 monitoring stations across the country in the spring and fall of 1967 and 1968. The fish were analyzed by five commercial laboratories and the samples for the fall of 1967 and the spring of 1968 were crosschecked.

Major Conclusions Noted

The major conclusions of the report were first that "there are a number of widely scattered waters in which fish show consistently high residues of DDT, dieldrin and other organochlorine insecticides." The report said some of the waters are in agricultural drainage areas and others are in highly industrialized areas.

Secondly, the report said that because of considerable variation in residue levels in different samples, "caution should be applied in using and interpreting these data." The report urged special studies to track down the sources of the pesticide contamination and resolve differences such as variation in fish samples and laboratory results and a continuation of the monitoring program.

The fish were analyzed for the presence of 11 commonly used, persistent, chlorinated hydrocarbon compounds. In addition to the near 100 percent presence of DDT, dieldrin was found in 75 percent of the samples, with values ranging upward to nearly 2 ppm. Heptachlor and/or heptachlor epoxide were found in 32 percent of the samples, in levels ranging to more than .1 ppm.

Chlordane residues were in 22 percent of the samples, with similar levels. (Although

the concentrations were lower for dieldrin, the heptachlors, chlordane, they are significant because these pesticides are even more toxic than DDT.)

DDT Counts High in Hudson

Nelson reported that the rivers or lakes where DDT counts reached levels in fish higher than the 5 ppm FDA level are: The Hudson in New York, the Delaware, the Cooper in South Carolina, St. Lucie Canal and the Apalachicola in Florida, the Tombigbee in Alabama, the Rio Grande in Texas, Lake Ontario, Lake Michigan, the Arkansas and the White in Arkansas, and the Sacramento in California.

Rivers or lakes where dieldrin counts reached levels in fish above the .3 ppm FDA level for this pesticide are: The Connecticut,

the Hudson, the Delaware, the Savannah in Georgia, the Apalachicola, the Tombigbee, the Rio Grande, Lake Ontario, Lake Huron, the Illinois in Illinois, the Arkansas and the White, the Red River in Minnesota, the San Joaquin in California, and the Rogue in Oregon.

Nelson noted that the study showed that fish in Lake Ontario have pesticide levels nearly as high as those in Lake Michigan. Lake Erie and Lake Superior findings were lowest of the Great Lakes, and Lake Huron findings were in the middle.

Species frequently used for the sampling were carp, buffalo, black bass, channel catfish, sunfish, yellow perch, and trout. The list includes several fish which are taken for sport or commercially and are popular table fish.

Venison Treats

Baked Liver Pate—Braise $\frac{1}{2}$ a liver in 2 tbsp. butter and $\frac{1}{2}$ cup diced salt pork and onion. When tender, mince the other $\frac{1}{2}$ of liver *raw* with 2 slices of bread soaked in milk; add $\frac{1}{4}$ tsp. of salt and pepper, pinch of nutmeg, grated rind of lemon, $\frac{1}{2}$ cup diced lean bacon. Mix thoroughly with two well-beaten raw eggs. Line a bread or cake tin with slices of lean bacon, fill with mixture and cover with aluminum foil. Bake in a moderate oven for $1\frac{1}{2}$ hrs. Serve with hot, buttered pumpernickel toast.

Venison Mincemeat—Five lbs. of neck meat, bottom round, or other tougher cuts. Let stand in salt water (1 tbsp. salt to 1 qt. water) for two hrs. Remove and cook slowly in plain water until tender for 2 hrs. Add 4 lbs. chopped Northern Spy apples, 1 pint of boiled apple cider, $\frac{1}{2}$ pint of molasses, 2 cups honey, 2 cups sugar, 1 tsp. each of cloves, cinnamon, allspice. Add $\frac{1}{2}$ lb. of black seedless raisins, $\frac{1}{2}$ lb. English currants (washed), cover with additional cider and simmer *very slowly* until apples are done. *Let cool*, then add 2 cups of finest grade blackberry brandy and warm up. *Do not boil*. This mincemeat can be put in sealed jars after the brandy treatment.

Pickled Venison Heart—Cut $\frac{3}{4}$ " off top of heart. Soak heart in cold, salted water (1 tbsp. of salt to 2 qts. of water) about 2 hrs. Clean out all blood. Then bring to a simmer in 2 qts. of water to which add $\frac{1}{4}$ tsp. each of poppy and celery seed, peppercorns, garlic salt, poultry seasoning and 1 tsp. salt and 1 bayleaf. Simmer until tender (about 2 hrs). Cool and let stand in this stock 2 days. Then pour off top of stock and retain about two cups of the bottom stock which contains the seasoning. Add to this a good *dry wine* enough to cover heart and let stand about a week. Serve with horseradish sauce and Jewish rye or pumpernickel bread.—*From the New York Conservationist*

Thirst No Problem

Prairie dogs do without water between the showers that provide puddles, their only source of supply in arid places.

Letters . . .

R. D. 2
Emporium, Pa.

Editor:

The following incident took place in Cameron County during the 1968 hunting season:

A teen-age boy had been watching a deer for some time—it seemed to him too long a time as he shivered—waiting to get a view of horns. From behind a hunter approached. The boy signalled him to be quiet. The deer stepped into the clearing. He had a huge rack. The boy thought of his buddy who boasted an 8-point buck. It was a tense moment—the moment of truth. He squeezed the trigger. *Wham!* The deer ran past the other hunter, who also got off a shot. *Wham!* The buck headed for safety inside the game refuge wire, but it was hit and bleeding. What to do? Only one thing. The boy asked the stranger to remain there while he went to obtain permission from the Game Protector to go after the buck.

After the boy ran for an hour in zero weather, he arrived at a telephone, phoned for permission, and after having received it, he headed back up the mountain. By then it was 5:30 p.m. He wondered if the other hunter was still there, or had taken the buck and left. The man—an out-of-state guy—appeared to be honest. He wondered if they both had hit the deer, who would have the right to claim it? This thought was confusing. What a beautiful rack! This would really impress the kids at school, especially his buddy. But—who knows—maybe the deer

got away. It was getting colder and darker as he trudged his way up the mountain.

The hunter was still there waiting at the spot. Having legal permission, they went after the buck. They came upon it a short distance into the refuge. It had been shot once. A decision between two sportsmen was then made.

A week later my son received the following letter.

My son, Greg Burlingame, had to settle for a doe later, but he stands a little taller as a teen-age sportsman.

Yours very truly,
His Proud Dad,
S. Wm. Burlingame

6697 Nancy Dr.
No. Olmsted, Ohio
11 Dec., 1968

Dear Greg:

This is a little note to thank you again for all your help last Saturday.

I will always remember this '68 deer season, not so much that the deer is a big 10-point, but because I met a true sportsman. I will never forget your willingness to go to your home to call the Game Warden and your returning to help me clean out the deer and drag it to my car. Your actions were the mark of a true sportsman and gentleman. I appreciate all that you did to help me.

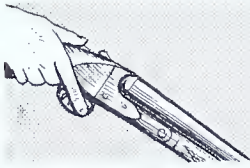
I'm sending you a small gift as a token of my appreciation. Have a Merry Christmas.

Sincerely,
John A. Misencik

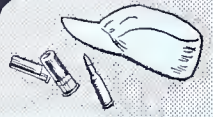
P.S.—I'm sending your flashlight back by mail.

Visit Hawk Mountain Sanctuary

Among Pennsylvania's most interesting outings, particularly in the fall, is a visit to Hawk Mountain Sanctuary. Embracing 1400 acres of rugged terrain on the Blue Mountain, the sanctuary is located only a few miles north of Hamburg. The area is renowned among bird-watchers, as the windy days of fall bring large numbers of migrating hawks, as well as lesser numbers of bald eagles, golden eagles and ospreys within close observation range of the Lookout, a promontory 1521 feet above sea level. Total counts for the last 30 years have averaged over 15,000 birds of prey per season. Resident birds include grouse, turkeys, pileated woodpeckers and horned owls. Over 220 species of birds have been recorded in the sanctuary since its establishment in 1934. Native trees and shrubs total 96 species. This is a fascinating place to spend a fall day. Visit it.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



EDWARD DUFFORD AND HOWARD RUMMEL, hunter safety instructors from the Pittsburgh Plate Glass Company, hold class at the Prospect Elementary School in Brackenridge, Pa.

P.P.G. and H.S.T.

PROBABLY no one contributes more to safety than Pennsylvania industry. Lost time due to accidents has been a major concern, with periodic meetings, newsletters and bulletins presenting all statistics. A great emphasis is placed on bulletin boards showing the number of days worked since the last accident. This keeps an awareness of the problem before employees.

The number of vacation days in which employees engage in hunting recreation has prompted many industries to include hunter safety training as a part of their safety program.

One community example of industry's attitude is Pittsburgh Plate Glass Company's assistance in providing instructors on company time to teach hunter safety. Approximately 600 students in the Highlands School District will receive the minimum four-hour course coordinated by Deputy Game Protector Thomas K. Sullivan in cooperation with school administrators. Included in the course for all sixth grades in nine elementary schools will be knowledge and safe handling of sporting arms in the field and home, hunter-landowner relations, identification, and a brief review of game laws.

Slides, movies and various visual aids will be a very important teaching aid.

This first venture by an entire school district, in cooperation with Pennsylvania industry, will be presented by these certified hunter safety instructors and employees from Pittsburgh Plate Glass: Howard L. Anderson, Edward L. Dufford, Edward J. Dukovich, Howard L. Rummel, Leo P. Salsgiver and

Thomas R. Sullivan. As the program matures, additional instructors and elementary teachers will assist.

A letter from Nick J. Staresinic, Superintendent of Schools, was sent to all parents to inform them of the benefits growing from Pennsylvania's Hunter Safety Program and the acceptance of hunter safety training as a part of the school curriculum.

Leighton Club Stresses Safety in Mixing Hunting and Youth

By Richard Benyo

"THE child is the father of the man" is the poetic philosophy that the Leighton Sportsman's Association nurses into a reality for ten weeks at the beginning of each year, building safe hunting habits into the youngsters who will form the nucleus of tomorrow's adult hunting population in and around Carbon County.

The hunting-oriented club, incorporated in 1924, has been conducting both rifle training (ages 12 to 19) and hunter safety programs (11 years on up) annually for the past three years under the guidance of the Pennsylvania Game Commission in cooperation with the National Rifle Association.

The basics of hunter safety are stressed throughout the 10-week course, which totals about 20 hours for each youngster, some 16 hours above-and-beyond the usual length.

Ervin Schlecht, president of the club, said that a few of the club's graduates have been assigned to firearms instruction once they have entered the Armed Services.

The club, which has claim to spearheading the campaign to make the white-tailed deer the state animal, had 84 youngsters in its hunter safety program for 1969, and found it necessary to break the instruction sessions on Thursday and Friday nights into two groups, one instructor handling one

phase of the program with half of the group, while the other instructor handled another phase with the group, switching groups halfway through the evening in order to assure that all of the students received equal attention.

The group has raised money over the years by conducting paper drives, by chancing off sporting goods, and from contributions. The money raised has been used to purchase the firearms used in the training program. It is estimated that the club has fired some 30,000 rounds of ammunition over the 10-week training period.

The program is not all study. The pupils compete for NRA achievement citations and shooting matches are held with neighboring clubs periodically.

The course is climaxed by a banquet at the club grounds, where the presentation of the achievement awards is made, where Game Commission representatives take part in the festivities, and where the parents of the youngsters can see how their children have spent some 20 hours of their time.

The 1969 edition of the end-of-the-course banquet featured an added highlight: the Leighton Sportsman's Association was presented with a plaque from the National Parks and Recreation Association for its service to the community and to the area in general.

WIND CHILL— The Wind's Icy Fingers

By Eugene R. Slatick

IT IS DEER season, and you are stalking through the woods hoping to find a nice buck. The temperature is about 30 degrees and the wind is swishing through the treetops. Where you are, the wind is calm. Then you move to an exposed place, and the wind hits you at a speed of about 10 mph. Brrr—how that wind chills! In fact, you feel as cold as you would if the temperature was 16 degrees and there was no wind.

The colder temperature—called the equivalent temperature—is obtained from the wind-chill table developed by the Department of Defense. A graph illustrating the table accompanies this article. In brief, the graph shows how much colder a given temperature feels due to different wind speeds.

To use the graph you need to know the temperature and the wind speed. (You can estimate the wind speed by using the descriptions given at the bottom of the graph.) First, find the appropriate temperature at the left of the graph. Follow the temperature line to the right to the wind speed. Note the place where they cross. Then move horizontally to the temperature scale to get the equivalent temperature with no wind.

Using the example mentioned earlier, you would find the 30-degree line, follow it to the place where it crosses the 10 mph wind speed line, and then match up that point with the temperature scale. The equivalent temperature works out to be 16 degrees. If the wind speed increases to 15 mph, the equivalent temperature is 9 degrees. By interpolating, you can use the graph for temperatures and wind speeds lying between those shown.

The wind-chill graph isn't precise. For example, you'll feel warmer at a particular temperature and wind speed combination when you are in the sun than when the sky is overcast or the air is damp. It is rather accurate for exposed skin, however, and it does give you an idea of how cold you might feel.

How does the wind chill? By forcing cold air through your clothing—through the tiny openings in the fabric as well as the large ones such as the sleeves and leg openings. And where it can't penetrate, the wind can press your clothes against your body and disrupt the layers of "dead air" that are entrapped in the material. Those layers of dead air keep your body warm; they slow down the transfer of heat from the body to the surrounding air.

Scientists have found that several layers of clothing can be better than one heavy layer in slowing down heat loss. The more dead air spaces, the slower heat is lost. When clothes get wet they lose their insulating power and become better heat conductors. Airtight materials, such as plastic, are unsatisfactory because they don't allow perspiration to escape. Water vapor from the skin can't evaporate, which reduces the insulating effectiveness of your clothing and you feel uncomfortable.

A hat helps keep you warm because it helps seal off one place where a lot of heat can be lost—the head. Studies show that in winter you can lose as much as half of your body heat through your head. So a hat (or a hood) is essential in very cold weather.

Without a hat your head might not feel particularly cold, however, because heat flows to it from other parts

of the body. The body does everything possible to make sure that the brain is kept warm. Other vital parts of the body also are given heat priorities. But your ears, nose, hands, and feet are less important in the body's automatic regulating scheme. The body reduces the flow of heat to them (by reducing the flow of blood) so it can have enough heat to keep the vital organs warm.

Because most of us don't have time to become acclimated to the cold, we should choose our cold-weather clothes carefully. We should wear a hat or hood, a water-repellant loose coat over a thick wool shirt, wool pants, well-made gloves, heavy socks and insulated footwear. Full-length underwear, either wool or quilted man-made in-

sulation, is advised. These will help keep us comfortable in cold weather. Being cold is no fun, and it could lead to something serious—frostbite, chilblain, head cold, flu.

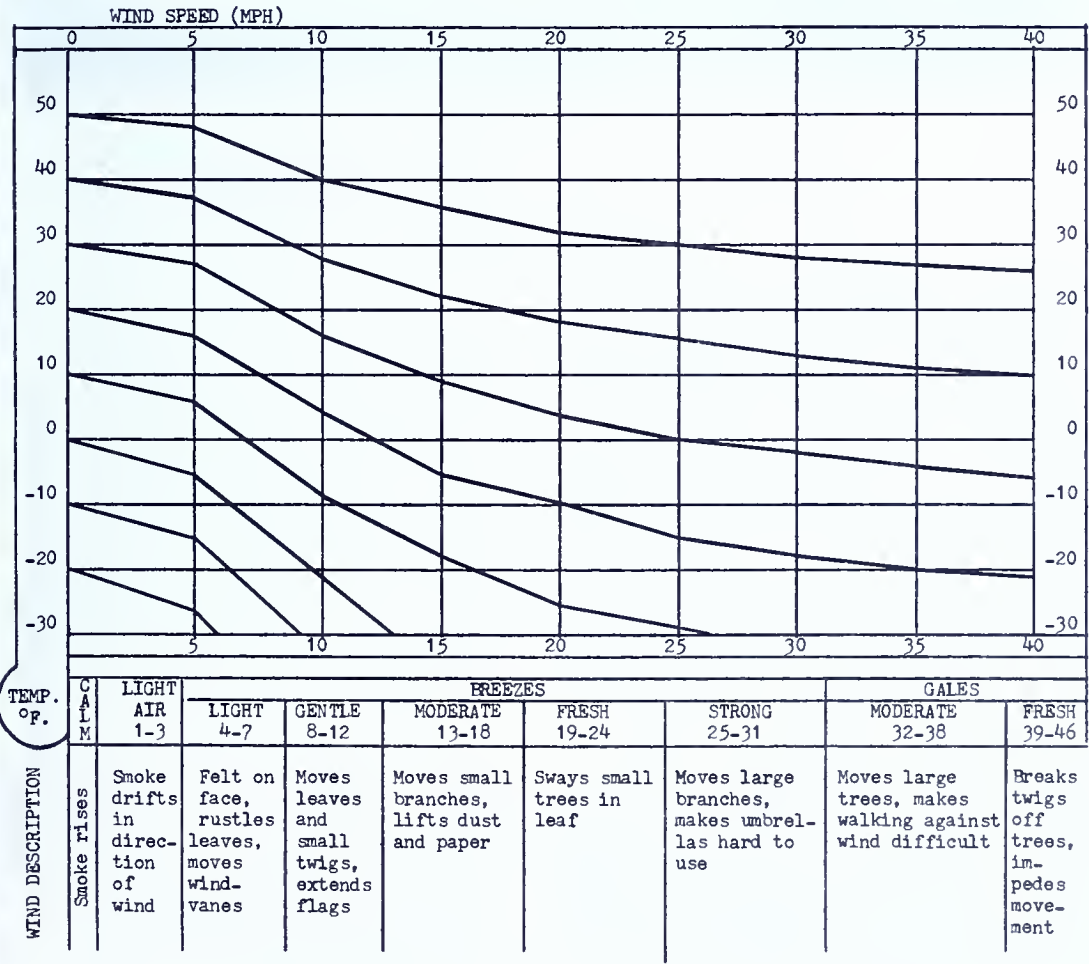
So when the temperature is low and the wind is high and you are planning to spend some time outdoors, check the wind-chill graph to see how cold a greeting you'll get.

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WIND-CHILL GRAPH



TENTING



The Only Really Pure Camping

By Les Rountree

IS THE TENTER becoming the forgotten man in today's camping scene? From a writing standpoint it appears as if the answer is yes. From a use basis my guess is that there are still a whale of a lot of people camping in them. The manufacturers must be finding a ready market since they are coming out with new models every season. It is a fact that the self-contained campers, pickup jobs and travel trailers have pretty much dominated camping stories for the past few years. They certainly are more glamorous and have put a lot of people into the outdoors that wouldn't be there otherwise (some readers will consider this a mixed blessing). But the advantages of just plain, old, unadorned tenting are many and, while I know all of you won't agree . . . doing the outdoor thing under some sort of 100 percent

cloth is the only kind of *really pure* camping.

My first experience with tents goes back to Boy Scout days and the "issue" pup tent. These jokingly called water proof jobs with sewed-in floors were heavy, stiff, hot and not at all mosquito proof. But they were the best we knew and camping out when you're 11 years old is fun no matter what you're doing it in. The natural upward step in those days was to a wall tent made from the same inflexible material. Of course this required a ridge pole and other support poles. It's a lot of work assembling these, if you're in a hurry to do other things, as you invariably are when you happen to be young and trying to make the most of each day.

Camping can be enjoyed for camping's sake and perhaps a lot of us would be better off if we looked at it

that way. As with all types of camping, tenting can be just as luxurious as you want to make it or it can be very economical. A very serviceable two-person tent can be had for as little as \$50. A large family model with extra rooms and fancy options can run up to \$600. There are, of course, all sorts of prices in between.

The old pup tent is still around and it's been dressed up quite a bit since my Boy Scout days. You can buy them with or without sewn-in floors and put together from all sorts of new materials, but the basic design is still there. The pup is nothing more than a wedge-shaped tube of fabric that will accommodate two sleeping bags and little else. For the serious camper, the pup tent's chief area of usefulness is on the overnight camping hike or backyard outing. Some extremely lightweight pup tents on the market now weigh just about half of what they used to. Several makers list one that weighs about 10 pounds complete with pole stakes and guy ropes. Pups are easy to put up (about five minutes) and take down. They work out fine for father and son outings or for short stays by two adults . . . if the adults happen to be under six feet tall. If the camper is a bit on the long side he'll feel cramped. I'm quite tall so my rule of thumb is, no more than two nights in a pup tent. If it rains all day and you can't get outside . . . one night is plenty! Cabin fever, you know.

While traditional shapes will continue to tie some of us to the old pup tent, some other small tents hitting the woods now have a lot more to offer. One of the most interesting is the half-dome shape. One manufacturer chooses to call this the pocket

camper and that's a rather good name. This tent is simply one-quarter of a sphere with the open side being tent flap and awning. These are made in pup tent height (about 42 inches) and you still must scrunch down to climb in. The big advantage, as I see it, is



TENT LIVING means camp stove (or campfire) cooking—a more primitive and therefore perhaps more satisfying method than a bottled gas stove in a deluxe camper.

the wide open front. It's easy to roll in and roll out and if you must sit out a shower the porch roof allows you to do it without roasting. The framework supplied with these round-topped models is tubular fiber glass. There are no tent poles or pegs to lose. Again they are a bit crowded for two large people, but just right for dad and son or for a solo walking trip. Pack weight is about nine pounds.

Jumping up in size to those tents that will sleep two or three in spacious comfort, or four in a pinch, we find all sorts of exotic shapes and colors. Some of these newer shapes are very interesting, but don't make much sense from a usable space standpoint. The old wall tent, which is nothing more than an enlarged pup tent with straight walls, is tough to beat. They can be had with interior or exterior pole arrangements.

I'd better stop right here and cau-



tion you not to cut any poles or pegs from any living tree on state property in Pennsylvania. You can be fined for it. Don't do it on private property either unless you have permission to do so.

The wall tent is roomy and most models are high enough at the ridge to accommodate even tall people. You need a little extra room at the top of the tent to prevent the warm stale air from hanging around at head level. The center height on any stand-up style tent should be at least seven feet. With wall tents, or any other kind of tent for that matter, foul air can be a problem if there are not sufficient ventilation holes. Most makers are doing a good job of providing screened windows, but a few are not. Make sure any potential tent purchase has plenty of vent holes with well-sewn mosquito netting and zippered or tie-down bad weather covers.

The next most common shape is the popular umbrella model. In the larger sizes these are not bad at all. In fact, the modified umbrella that sports the extra side room is very comfortable. This is most certainly not true of the

THE WALL TENT is a longtime favorite, still unequalled for many kinds of camping. New lightweight materials have eliminated its traditional weight problem.



smaller umbrellas that are designed for four people, especially those with inside pole and corner supports. Even with an outside support system, right in the exact middle is the only place that an average-size person can stand up. If you take one-half step in any direction your head is bumping the side walls. The usable space along the walls is reduced in these smaller umbrellas because the walls slant toward the center a bit too sharply. Check that center height carefully before buying an umbrella tent. If you can get one just a bit larger than the one you think you want . . . buy the larger one!

Number of New Shapes

There are a number of new shapes on the market now that are take-offs on the wall or the umbrella design. One particularly interesting one is shaped like the top of a covered wagon. The advertised height of this model is just a bit over six feet, and it's nearly nine feet long. I wish that the center height were more generous, but the extra length may compensate. It's an interesting shape and looks like a good bet for a family of four.

Another recent design features an almost flat top roof. The corners of the tent body are rounded off instead of being angular. This number carries its aluminum ribs on the outside. The exo-skeleton system saves some interior space but the really interesting innovation about this tent is the white roof. This simple addition makes for a much cooler tent in the summertime, and I can't help wondering why more manufacturers don't do it. An all-white tent would be best of all, but it would get dirty in a hurry. A better compromise might be a pale-green color. That brings me around to my current favorite.

I've been fooling around quite a bit with one of the four-man pop-tents. This is an igloo-shaped model that really can be put up in 90 seconds if you don't make any false moves. Three minutes would be more realistic, and



UMBRELLA TENT is popular, has good headroom with exo-frame. An extension on one side is handy if to be used by more than two or three people.

that still isn't a very long span of time. The framework is made up of jointed fiber glass poles that link together at the apex. The speed with which this tent can be erected is really handy when there happens to be the threat of a shower or a late night setup with a lot of sleepyheads in tow. With the optional tail gate enclosure this is one of the slickest rigs I've found for station wagon camping. This attachment provides a sort of tunnel from tent to tail gate and makes such a combination very spacious. The tent is light green, a color that I believe is most practical for the summer camper. It reflects quite a bit of heat and after three or four trips still looks presentable.

Perhaps I am making too much of this color thing. If you don't intend to spend much time in your tent during the daytime and you are not camping in a very hot area, the color is not too important. But even if temperatures were not a factor I fail to see why we should settle for O.D. shaded tents. Up until a few short years ago most tents were army surplus or copies of military models. The manufacturers seemed to be completely lacking in imagination and continued to put out tents in one color only . . . olive drab. Apparently some other campers felt

the same way I did and started to complain. Perhaps the growing number of female campers had something to do with it. Anyway now it's possible to buy tents in just about any color imaginable. In fact you can equip yourself with a complete color keyed camping outfit. It's possible to have matching tent, canoe, water jug, ice chest, sleeping bag and—well, you name it! All this colorful gear doesn't guarantee a better camping trip but it might help. If it makes the user happy it's a big step in the right direction. If nothing else, bright gear should make your campsite easier to find if you happen to be staked-out at one of the really big camp areas.

Many Junk Tents

As with all types of camping gear there are a number of junk tents on the market. There are also a lot of G.I. surplus numbers floating around. Some of these are okay if they haven't been in storage too long. Mildew, insects and just plain age have weakened some of these to a point where you can poke your finger right through the fabric. Not a very good buy at any price.

The best way to buy a tent is to ask people who own different styles and

try to make a decision based on what your needs will be. For sleeping room, always deduct one from the number that the manufacturer suggests. This is especially true if you happen to have some large people in your family. Check the sewn seams carefully. On top quality tents the edges should be rolled and double stitched. This should also be true around the air vents and windows. Tie-down canopies over the windows and door are all right but zipper closures are better . . . if the zipper is a heavy duty job. The new nylon coated zippers are best of all, in my opinion.

Most of the newer tents utilize aluminum poles. This eliminates the old requirement of transporting heavy poles or cutting new ones (where legal) every time the tent goes up. With a little care they should last the life of the tent, but they won't stand unlimited abuse, especially crushing. Many of the better makers are sup-

plying self-adjusting spring-loaded poles that keep the tent taut under all conditions. There is a certain amount of give and take as the fabric becomes damp and eventually dries and contracts.

Finally, no tent should be waterproof. Water resistant, yes. But *waterproof*, no. A tent that is 100 percent waterproof cannot "breathe" and the camper will be highly uncomfortable in one due to moisture condensation, foul air, etc. This applies during winter or summer camping. Tent camping used to be a strictly summer operation. With a sewn-in-floor tent and one of the almost fumeless catalytic heaters that are available today, tenting can be a year-round sport.

Tent camping is the easiest way to get into the outdoor living game. It's also one of the most satisfying, and when you get right down to it, it's the kind of camping that started this whole business.

Book Review . . .

The A. B. Frost Book

A. B. Frost (1851-1928) has been described as "the most American of American artists," the painter who preserved the heritage of Eastern sportsmen as Frederic Remington and Charley Russell did for Western frontiersmen. This book could well convince many readers these observations are correct. Based on extensive research by a leading collector of Frost paintings, its pages give a close personal look at the artist whose illustrations for the books of Mark Twain and Joel Chandler Harris, among many others, formed the mental images many have of Tom Sawyer and Huck Finn, Br'er Rabbit and Uncle Remus. But even more important than his illustrating ability are Frost's "shooting pictures," largely scenes of hunters with dogs. Here, as in "Grouse Shooting in the Rhododendrons," "October Woodcock Shooting," and "Upland Bird Hunting," his mastery of detail, so precise it annoyed art fanciers who tended to be over-impressed with the unintelligible, is a pure delight to those who appreciate seeing yesteryear's memories in paint. A setter locked on point as a grouse explodes . . . gunner and pointers caught in the frozen moment of a quail covey's rise . . . even beagles howling on a bunny's trail—these are the scenes Frost loved and created with unsurpassed ability. Over 70 plates, including 44 in color, and many line drawings illustrate this fine memorial to "the sportsman's artist." (*The A. B. Frost Book*, by Henry M. Reed, Charles E. Tuttle Co., Rutland, Vt. 149 pp., \$20.)

Right for Rabbits

By Keith C. Schuyler

Photos From the Author

THERE IS SO much emphasis on deer hunting in Pennsylvania with the bow and arrow that the average archer sometimes overlooks the sport that may be had seeking small game. And when you mention small game, the cottontail rabbit hops into first place. As the white-tailed deer is the most widely hunted big game animal in the United States, the rabbit leads the list in the small game department.

Not only is the cottontail excellent eating, it offers sport almost everywhere in the Commonwealth. After the initial emphasis on bird shooting, the rabbit shoulders the hunting load for much of the season over much of the state. This year there has been every indication that we have had a bumper crop of cottontails. The growing army of archers shouldn't miss out on this chance for some real field sport.

Probably what discourages many is the normal mental association with rabbit hunting. Most of us have enough trouble collecting rabbits with a shotgun. It would seem that the archer's chance to score would be so remote as to make rabbit hunting with the bow next to ridiculous. It would be largely a waste of time in the meat department if everybody hunted with the bow as they do with the gun. But the fellow with the bow knows when he picks it up for the first time to go hunting for anything that he has a real challenge to meet.

Nevertheless, with a little modification of normal hunting methods the archer has a better than good chance of scoring on rabbits.

COLUMNIST'S SON, CHIP, retrieves cottontail from deep gully overgrown with multiflora rose. Schuyler didn't think he'd connect on this shot, but was fooled.





SHOTS AT RABBITS are often close, for most are taken at sitting animals. Still, they aren't easy, due to brush, heavy grass and other cover.

There is no intent here to make it sound too easy. Yet, some of my biggest hunting thrills have been when seeking rabbits, and on one memorable day I actually took my limit of four with the bow. In fact, a lowly cottontail provided me with an experience so pleasurable that I have dedicated a forthcoming book on archery to it. It was undoubtedly the best, and the luckiest, shot that I have ever made.

It happened a few years back during the late small game season. As often happens at that time of year, we had snow. On the first day, my son Brian and I combed the hills near home with shotguns. We had nine rabbits out on heavily hunted ground. However, many went out wild, as they frequently do when cover is sparse, and we only collected a few.

On the last day, we decided to finish up with the bow. We got off to

a good start when I nailed one in the nest. But, although we still found plenty of targets, they continued to go out wild. Either we wouldn't get a shot or had to try the near impossible on speeding targets. A fresh snow made a good backdrop for shooting, but rabbits that have been shot a numerous times during the season don't stop or slow down until they have made it to their holes.

Led Him Six Feet

Brian was just over the edge of the hill to my rear when a big cottontail jumped out about 20 yards ahead to my left and went quartering up a rise to the right. I led him about six feet and released an arrow.

The rabbit flipped and lay still.

For a moment I simply couldn't believe that I had any part in that cottontail's sudden stop. For one thing, it never twitched after it tumbled. Even rabbits shot with the gun will usually make some movement. Without stirring from my tracks, I called to Brian. There must have been some urgency in my voice, because he came hurrying up with a question on his face.

"See that blob up there on the edge of the brush," I said, indicating the direction.

He nodded.

"Well, that's a rabbit, and I just shot it running, from here."

I pointed to the unmarked expanse of snow reaching to the rabbit. We paced it off and estimated it at 20 yards. On cleaning the rabbit, we discovered why it had not moved after being hit. The field point had gone right through its heart. After reaching home, we discussed the event and wondered aloud just what the distance really was. Brian suggested we trudge back up the hill and measure it with a tape. It was 83 feet.

Any superior feelings I might have had were brought back to normal shortly after the running shot. I missed another rabbit in the nest at 10 yards.

And that brings up a point. A

STRAIGHT FROM THE BOWSTRING

though I still savor the thrill of dropping that cottontail with a shot that will probably never be personally duplicated, all of my other rabbits have been taken as still targets.

My personal feeling is that the hunter who shoots a rabbit in the nest with a shotgun is purely meat hunting.

It removes any semblance to sport. We just don't do it. But a sitting rabbit, whether in the nest or just stopping to reconnoiter, is a sufficiently challenging target for the archer. Many times no more than a patch of fur the size of a half dollar is visible. As a target shooter knows, the smallest bullseye on a field course is tough by any standards.

Consequently, rabbit hunting with the bow is primarily a stalking sport. Many hunters go for years without ever seeing a rabbit until it jumps from its nest. Since there is no necessity for finding a still target when hunting with a shotgun, they simply never learned how to pin a rabbit with their eyes before the shot. It really isn't difficult if one knows what to look for and where to look.

Cottontails Cute

Rabbits are extremely cute when it comes to utilizing their amazing camouflage to conceal themselves. I have had frequent occasion to watch them when mowing a grass field to see how they do it. It is sometimes quite easy to see the ears of a rabbit rise when it hears your approach. But, when the tractor nears, they flatten down in the grass so that they would be all but impossible to see if they had not first revealed themselves at a distance.

Rabbits use every possible bit of cover to remain hidden. We once watched a farmer harvesting corn

with a mechanical picker. He was down to the last single row of corn when two rabbits jumped out in front of his tractor. It seemed impossible that they could have remained concealed without being run over by the tractor, the picker, or the wagon trailing behind. It was certain that some part of the equipment must have passed overhead on the previous run to pick the next-to-last row of corn.

If you have the opportunity to watch a rabbit which suspects it has been discovered in its nest, there is an almost imperceptible cocking of every muscle as it draws its feet in under it for the takeoff. An archer must shoot fast at this point or take an improbable chance moments later when the cottontail is in high gear.

The classic position for a rabbit is in a well-formed, semi-permanent nest. These are simply hollowed out depressions in the grass, usually with a smooth dirt bottom. They are used day after day when the weather is favorable. But once a rabbit is frightened from such a nest, it will seldom return. A permanent resident may have more than one such nest in the vicinity of a hole or heavy brush where it will take refuge, usually after circling in front of a dog or having been disturbed by an unsuccessful hunter. It is well to hunt carefully in the vicinity of an empty nest since the rabbit may be occupying another or



may simply be sitting somewhere close on its return after having been disturbed.

A rabbit which is sitting at some spot of opportunity rather than in a prepared nest is usually much more easily frightened. It is also easier to see, which may account for its tendency to take off at full speed at the approach of a hunter. On other occasions, the brush or weeds may be so heavy that it gives the animal a greater sense of security.

Bunny in Bushes

One such situation occurred when No. 1 son, Chip, spied a rabbit hunched up in a dry creek bed under a heavy cover of multiflora rose. There was barely room for an arrow to get through, and I was betting on the rabbit when he released. However, he nailed the bunny well. The biggest chore was in getting it out from in under the heavy mat of brier-covered bushes.

Any suggestions as to where rabbits can be found would seem to be superfluous to anyone who has hunted with the gun. Hunters head for the most likely cover. However, they usually do so because there is a likelihood of getting a shot at a bird in such thickets after the season is well along. They play the averages. Nevertheless, although the percentage of game in such cover is likely on the high side by comparison, the archer might do well to consider places to hunt where he stands a better chance of scoring.

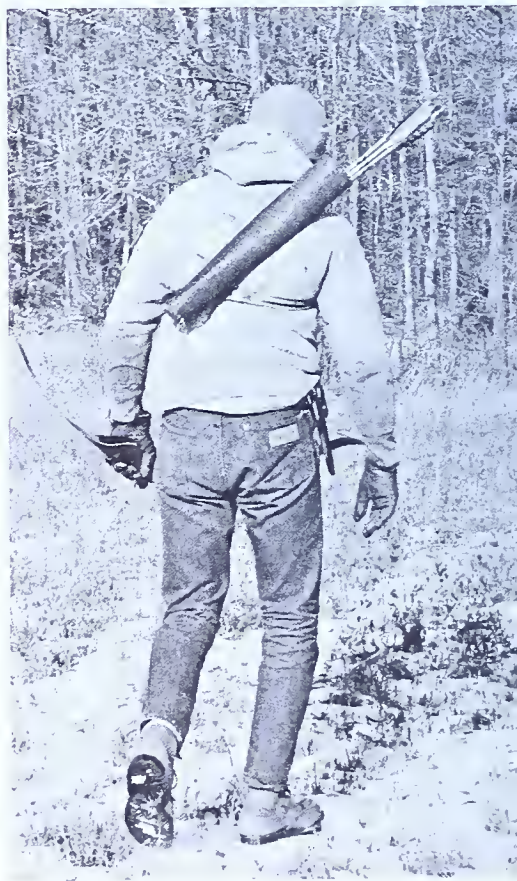
One of the less obvious spots is frequently right in the center of a hayfield that has been cut close, if there is a groundhog hole or holes located there. Rabbits will run half again as fast in such cover, or lack of it, but they love to sit in such areas. Frequently they will be along the edge of a groundhog trail which they will use to make the hole. Under such circumstances, the rabbit doesn't mess around with this circling bit. It usually heads for the only safety available — the groundhog hole. Yet, it will sometimes

sit tight in its nest as long as possible rather than reveal itself in a run for safety.

Another good spot for the archer to check is along the edge of wagon roads on the farm which edge fields of winter wheat or apparently barren pastures. If there is *any* cover available, such as the occasional handful of dry grass, there is a fair chance that it will harbor a rabbit. This is true even though the bunny may have to run the width of an open field to the safety of a hedgerow spotted with groundhog holes. Again, such rabbits usually sit tight since they are aware that they have a long run to safety.

Bear in mind that the more obvious cover is pounded almost daily by hunters during the gunning season. This will not completely discourage

SOME OF THE BEST bow hunting for bunnies comes during the late season after Christmas, when snow often helps to define targets.



rabbits from inhabiting such cover, since they obviously have been successful in escaping repeatedly. But many times the wise old rabbit will get tired of such nonsense and find himself a fairly open spot somewhere in the vicinity. Some of the biggest bunnies I have taken have been in such spots.

An exception to this is on farmland bordering heavily wooded areas. Such places harbor hawks, owls, and other predators which discourage rabbits from chancing open areas for their nests.

There are areas where the owners discourage gun hunting because of the need for greater safety or protection of property. An example would be an orchard where the proprietor does not want to risk damage to fruit trees. The single projectile that an arrow represents greatly lessens such risk and makes the archer welcome where a gun hunter may be refused permission to hunt. Some farmers might not object to bow hunting for rabbits only where they want them thinned out or eliminated but the risk to livestock and buildings is considered too great. Certainly the archer should have unqualified permission before hunting such areas.

Look for Eyes

Even if it meant all running shots, it would not discourage many bow hunters from trying for rabbits, but suggestions here should help to improve things in the scoring department. Although it is easy to steer bow hunters in the right direction for rabbits, there still remains the problem of actually seeing them before they take off.

Probably the best advice is simply to look for eyes. In any suspicious looking spot in the grass or brush, the first indication of a rabbit is usually its eyes. These black spots are often

the only part of the animal to distinguish it from its surroundings. Once the eyes are discovered, a bit more looking will reveal the outline of the rabbit—or as much as can be seen. Then the shot can be planned which will be most effective.

There have been times when all that was visible was a small patch of rabbit fur. The actual outline of the animal is hidden. A hit in this spot will undoubtedly produce a whole rabbit, but a miss of the exact spot may not touch it.

Regular Tackle OK

Hunting rabbits with the bow requires little if any refinement of tackle. Any bow with which one can score well on the target is plenty good enough for rabbits—actually preferable. The only question that might arise at all is in the type of arrowhead to use.

My personal recommendation is for the long pointed field head. Although a couple came close to making a groundhog hole, I have yet to lose a rabbit with one of these heads. Depending upon the angle, the head will usually bury itself in the ground or stick well in anything but stone. It will pin the animal to largely eliminate the possibility of having one escape that is fatally wounded.

Those who have used broadheads, easily capable of killing big game, sometimes complain that they will not hold a rabbit that has an obviously fatal wound. This, I believe, is because the broadhead is more apt to skip away after making a pass through on a low angle shot. On the other hand, there are those who prefer blunts because they produce more shocking power, possible even with arrows on small game.

But, whatever your choice of heads, a small rabbit can produce a big thrill with the bow.

Big Beginners

Elk calves are spotted at birth and weigh up to 40 pounds.



TIM LEWIS FOUND WHAT HE wanted most under Christmas tree—a 22 rifle.

The First Year

By Don Lewis

Photos by Helen Lewis

BILL AND I entered the thick cover of tangled grapevines and cut-off treetops. A few years back, a sawmill had taken the big trees, and only the ugly remains of stumps and piles of treetops remained. Although it was an ugly sight, it was good cover for grouse and rabbits.

"Keep your gun ready," Bill warned as we edged our way into the mass of brush. "I've seen two or three take off at once in here," he continued.

"I'll be ready," I said.

A moment later a grouse roared off to my left just as I ducked under some heavy branches. I saw the bird just as it sailed over one of the big waste piles. I managed to fire, but it appeared to be a clean miss.

"You got it," Bill yelled.

"Naw, I missed it clean. That o' bird caught me flat-footed, and that's no alibi either."

"You must of hit it," Bill insisted. "I heard it hit the ground."

"Your ears must be a whole lot better than my sight. I don't think I ever touched it."

On Bill's insistence, we began to look for a bird that I figured was half mile away by then. Ten minutes of searching left us empty handed. When Bill wouldn't give up, I went back to the place I had shot from to point out to him where the bird was when I fired. To my surprise, Bill and I were looking 50 feet from where the bird had been. I guided Bill to the

spot I had last seen the grouse, and he soon picked it up. I had dropped the bird cleanly, and even though Bill gave me a lecture on how poor my eyes and ears were, I was thankful that he had been so persistent.

"That was a pretty fair shot," Bill stated as I stuffed the grouse into my coat. "Let's see if you can do it again."

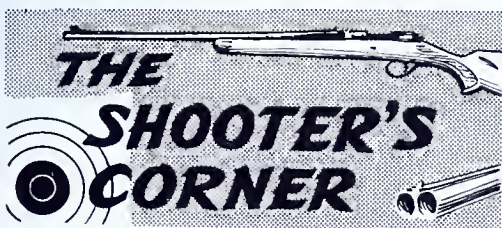
"Listen," I told him. "If this 12-gauge pump didn't fit me like an old glove, I wouldn't have even got the gun to my shoulder, let alone shot."

"Hey, this gun does come up pretty nice," Bill said as he tossed the gun to his shoulder a few times. "How about tradin' for a couple of hours?"

"Okay." I picked up Bill's 12-gauge pump. "I guess a good shot can hit 'em with any type of gun," I needled Bill as we started out again.

Bill's gun was heavier and considerably longer in the stock than mine. It didn't fit me, and it caught on my coat each time I threw it to my shoulder. I made a mental note to remember to correct that when a chance came to shoot. While musing about this, a rabbit belted out of a brush pile and raced down one of the log skid trails. Normally, it would have been an easy shot. My first error was forgetting that the safety on Bill's gun was on the front of the trigger guard instead of on the back like mine. This confused me for several seconds. When I finally brought the gun to my shoulder, I forgot all about allowing for the long stock, and it caught me good under the armpit. By the time I got ready to fire, the rabbit was long gone; I never fired a shot.

"Give me back my gun," I told Bill when we met a half-hour later. "You have a darn nice shotgun, but it's not for me."



TIM'S FIRST GROUSE, taken with a shotgun of course, but not until he'd learned the basics of shooting with a rimfire rifle.

"I'm glad you asked," Bill replied. "After I took your gun, I kicked out a grouse. I couldn't find the safe. I didn't say anything since I didn't want you to know I had pulled a boner."

Bill and I finished off the day getting a couple rabbits each, and I dropped another bird. I learned a valuable lesson that day. Stick to a shotgun that fits you.

Another small game season is here, and hundreds of thousands of hunters will match their wits and skills with Pennsylvania's small game. In many cases, the hunter will get the short end of the deal. One reason could be that his shotgun is just not suitable for him. This will be particularly true with new hunters. Not only will they lack experience, but couple this with the wrong shotgun and it's not hard to see that they won't do too well.

There's another aspect to consider besides experience and the wrong gun; it's the proper attitude. Even some new hunters believe that small game hunting has nothing to offer, and they

feel no skill is necessary in it. The rifle dominates their thinking, and they actually believe it's hard to miss with a shotgun. Naturally, this type of hunter is far from being skilled. Shotguns do throw large patterns, but this is still no guarantee that every shot will be a hit. Remember, a roaring grouse or fast running rabbit is not an easy target. Someone once said there's plenty of room around them, and I agree wholeheartedly when I think back over the easy shots I've missed.

Learn Fundamentals

Most hunters want to become good big game hunters. It's extremely difficult to become adept at big game hunting without first learning the fundamentals of small game shooting, I feel. The new hunter should always begin with small game hunting. The big game hunter occasionally has fast shooting, but much of his shooting is at standing or slow moving targets. The small game hunter is faced continuously with flushed game. Unlike many big game shots, where at least the hunter has a little time to evaluate the situation, the small game hunter must make certain it's safe to shoot, get his shotgun in position and align on his target, all in the matter of a few seconds at most. This is a pretty fair order for even an experienced hunter.

Since some degree of haste is required, the small game hunter must teach himself mental and physical control. The new hunter must learn this to the last degree. In other words, the small game hunter must be in control of himself at all times. When he has taught himself to wait until a rabbit is out far enough for his gun's pattern to be opened, he will have entered the field of the experienced hunter. When he becomes proficient at this, he will undoubtedly make the proper move in big game hunting. You might think I'm talking through my hat when I speak of the proper mental attitude, but in only a few seasons of hunting you will see that it's no joke.

The first year is always a hard one. To begin with, the starting hunter is not sure what type of shotgun will be best for him. Each person he talks with gives him a different story. I've found out that most people give advice according to what they like. Sometimes this is fine, but in most instances it's poor advice. A fellow who has been using an autoloader for years probably can't see any real value in beginning with another type of gun. Even though any type of gun can be used, the first-year hunter should consider more things than just the type or gauge.

Today, everything is power and

DARREL LEWIS approaches downed buck carefully, as per his father's instruction



speed. It's common to hear of "busting a quail," "clobbering a rabbit," etc. These aren't proper hunting terms, and they have no rightful place in the hunter's vocabulary. They give the nasty impression that game doesn't have a chance. It sounds as if the hunter blows everything to bits. I once met a young fellow carrying a 12-gauge Magnum with a 30-inch barrel. He was hunting for rabbits in brush so thick that 20 feet would have been a long shot. I was afraid to ask him what kind of shells he was using. A shotgun such as that is definitely not for that kind of hunting. The new hunter should remind himself that his first gun should be simple and safe instead of powerful and complex. The common single shot is ideal. The single shot is easy to check to see if it's loaded, and most singles have hammers that require cocking. Best of all, once it's fired, it's empty. No matter how high the excitement gets, the hunter can't fire another shot accidentally. This in itself makes the single shot the "must" gun for the new hunter. Safety comes before everything else in the realm of hunting. I've said many times that the ol' single shot soon teaches the new hunter to take his time and wait out the game. When we begin with guns that offer more than one shot, we soon start to rely on the second and third shots.

Single Best Starter

I realize that not everyone wants to start with the single. A lot of fathers insist on buying their sons a shotgun that will do a lifetime. This is understandable, but it's unlikely that a youngster will fit into an autoloader or pump gun. In most cases, the stock will be far too long for a boy or girl under 15. It's impossible to shorten a fine stock and then several years later add to it, and the cost of a new stock for an expensive gun can be prohibitive. A single shot might have to be cut down, but a new replacement stock can be purchased inexpensively. Another thing to consider is that after



LEWIS'S DAUGHTER, CAROL, ALSO started her shooting experiences with a 22 rifle.

two or three seasons, the new hunter will have a much better idea of the type of gun he wants.

So far as power goes, I can only offer this. Don't ask the new hunter to use a gauge that you consider too small for the type of hunting he will do. Don't buy a 410 when you wouldn't use one yourself. On the other hand, don't start the new hunter with a shotgun that beats him black and blue. Ladies as well as youngsters will enjoy the simplicity of a 20-gauge single shot. The recoil is light, and there are no powerful operating levers such as the semi-autos have, or trigger selectors that only confuse. The lady hunter will soon learn to cope with the hammer, and she will feel safer with the single shot than with the more complex shotguns.

The most important thing is to see that new hunters get plenty of pre-season practice. Have them shoot at different targets. Impress upon them the power the shotgun offers. Step off

40 yards and have them shoot into a two-gallon can or a large cardboard box to show them just how far the shotgun is effective. I was hunting with a new hunter when I saw a rabbit under a small pile of brush. I told him not to shoot until I yelled. I kicked the brush, and the fellow fired two shots before the rabbit got 20 feet. He admitted that he had no idea how far a shotgun would shoot. I lost no time in informing him.

In small game hunting, all of the action takes place practically under your nose. Even long shots are seldom more than 40 yards. Unlike the big game hunter who is confronted with windage, trajectory, and distance problems, the small game hunter is concerned only with determining that the shot is safe, getting the shotgun to his shoulder, swinging and following through. The big game hunter might have a minute or more to study his target and make a decision; the grouse and rabbit hunter has only a few seconds at most.

My late father-in-law bagged seven bucks with seven shots. He was a precise, meticulous hunter. Seasoned by years of small game shooting, he never lost control of the situation when a buck appeared. Before I left for the service in November of 1942, he and I hunted together. I remember shooting a rabbit that jumped out in front of us. I was using a 20-gauge double, and I had gotten into the nasty habit of throwing my first shot without really settling down. I knew I had a second shot if I needed it. When I shot the rabbit about 20 yards in front of us in a wide open hayfield, Dad Nulph criticized me for not allowing the rabbit to get out farther. At that time, I thought he was just too slow on the draw, but now I know that he was

right. I also know that I fired twice many, many times when one well-timed shot would have done the trick if I'd taken my time.

If this is to be your first season, be practical and forget a good many of the fancy things you read and hear. No hunter will become experienced in just one season, but he should strive to practice safe hunting methods and learn as much as possible about small game hunting. No shotgun, of itself, will make you an expert the first year. Use a shotgun you understand and know how to handle. Don't worry too much about expensive equipment. Use the first couple of years to gain experience. If you plunge now into an expensive imported over-under, you may find that a lightweight pump gun would have been more suitable. Start slow and work up, and time and experience will eventually put you on the right road when it comes to buying the proper shotgun.

Don't Worry About Misses

If this is your first year, don't spoil it by trying to make like an expert. Take only the open shots, and don't worry about the misses. Small game hunting has plenty to offer, and if you go about it right the first year, the seasons ahead will be that much more enjoyable. When you get right to the heart of small game hunting, it's the frosty leaves under your feet, the cry of the beagle, and the squawking of a rising ring-necked rooster that tugs at the true hunter's heart. Shooting simply for the sake of killing is not a part of him. It's the call of the big white oaks where the grays run, the long straight corn rows that conceal the gaudy roosters, and the thick slashing where ol' cottontail sneaks right past you unseen that is the tonic that soothes the hunter's system. Here he is at home; this is a part of him. Small game hunting has been rich and rewarding for me. Allow your son or daughter to be part of the great outdoors. Small game hunting is a good way to start them.

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GAME NEWS

DECEMBER, 1969

FIFTEEN CENTS



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COVER PAINTING BY NICK ROSATO

Among sportsmen who have hunted the continent over, many give the white-tailed deer the nod as the smartest game animal. Of deer, an old Pennsylvania buck is by far the most intelligent—any Pennsylvania hunter will tell you that. And this, of course, means that a Pennsylvania deer hunter has to be the best hunter in America—that's obvious, isn't it? All of which makes clear the situation on this month's cover. That ol' whitetail buster isn't fooling our hunter for a second. Our Mighty Nimrod is just fooling with him, making the game more exciting. Sure he is. Hah!

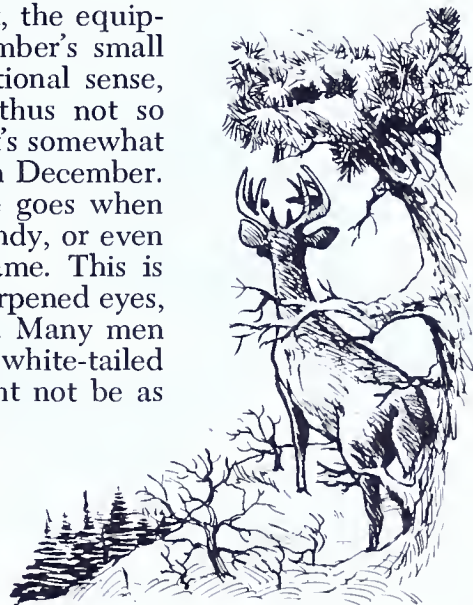
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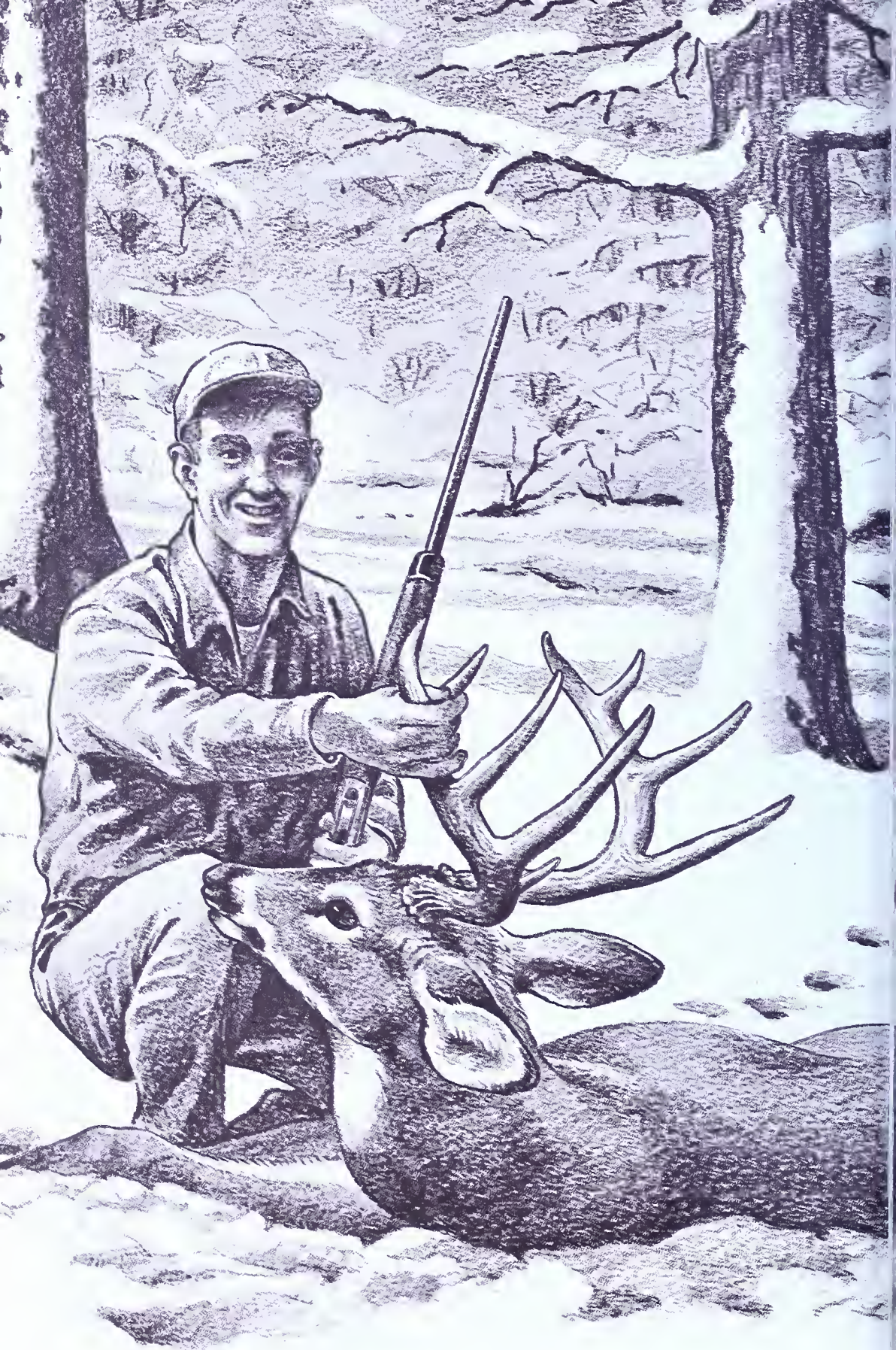
Of December . . . and Deer

THIS IS DECEMBER—the month we all wait for. Well, maybe I shouldn't put words in your mouth. You might prefer a different month. But I don't. Given my pick of the year's twelve, this would be it. I will admit the choice isn't easy. There's a lot to be said for the first green touches that come with April, even for the oppressive sultriness of an August afternoon, with heat haze dulling the binocular's resolution as you search for distant chucks. And the golden days of September sometimes have a perfection that brings a lump to the throat. But these are too easy, somehow. There's a promise to spring, a softness to autumn that is mostly giving and not much taking. But December is demanding. There's reward aplenty for the outdoorsman in December, but it's not handed to you on a platter. This is no something-for-nothing month. You want anything now, you pay for it.

Not in money, necessarily. But in effort, adaptability, know-how. December is the month of the deer, and this critter is the main reason we make that first big battle and get out of a warm bed well before daylight and make ready to face a long cold day. Getting up can be difficult at home, where a simple twist of a thermostat dial adjusts the temperature to your liking and an electric range quickly produces a hot filling breakfast. But in a deer cabin or a camper, conveniences are fewer. And in a stoveless tent, they seem insurmountable. Crawling from the luxurious warmth of that old goosedown robe into the aching cold of a frost-hung tent, with only a weak-beamed flashlight to guide you to the clothes you shed the night before—boots now stiff and heavy as flagstones, jacket damp with yesterday's perspiration—this is an act which requires willpower of a sort never developed by fair-weather hunters.

The actual hunting is different too. The summer shooter's number one requirement is accuracy. He's usually a varmint hunter, interested in the technical efficiency of his equipment; in fact, the equipment often becomes an end in itself. November's small game man is more of a hunter in the traditional sense, but his quarry is comparatively plentiful, thus not so difficult to bag—with the natural result that it's somewhat less impressive than the big game pursued in December. All of which sets the deer hunter apart. He goes when the weather is most miserable—cold, raw, windy, or even worse, rainy—and he hunts our smartest game. This is the animal with the radar ears, the woods-sharpened eyes, the fabulous nose—and the brain that thinks. Many men who have hunted the world over list the white-tailed deer near the top in wary animals. He might not be as exciting as a lion, as exotic as a snow leopard or as dangerous as a Cape buffalo, nor have the half-mythical mystique of the kudu. Still, bagging one in fair chase is an accomplishment to be proud of. And now is the time to do it. This is December.—*Bob Bell*





WICK
PETER

The 10-Pointer Was a Monster—One Any Deer Hunter Would Give a Lot to Bag. Provided He Didn't Know It Was a . . .

BAD LUCK BUCK

By Gray Stoneman

THE Dingman Run Flats above the old Yeager Sawmill had long been a top producer of bucks. Because the geography of that part of Potter County was rough going and heavily laced with hemlocks, sandstone boulders and laurel thickets, it was not good for drive hunting. The lone hunter who knew the country could always do better if he spent a lot of time walking slowly through and paying attention to sights and sounds. It was not a heavily hunted section because the very character of the flat made it extremely difficult to drag a deer out. The successful hunter didn't have to haul his deer very far but it was tough going, and the few who had done it once didn't relish the thought of trying it again. But when you're 25 years old, have a good pair of legs and hear about a sprawling 10-point rack . . . well, you don't care much where the deer is, you're going to go after him.

My brother-in-law had taken two hairy running shots at what he thought was the biggest buck he had ever seen. That was on the opening day. On the following Saturday the Staiger family, Dingman Run regulars for many years, had reported a monstrous buck that had given them the slip. We were now halfway through the second week of the 1956 buck season and I was deerless. I would try for the big buck on Thursday, and on Wednesday night it looked like a fresh snowfall would help me out.

At dawn I was mushing through four inches of new wet snow that made the walking a bit difficult but quiet. I headed for the protected side of the big flat that was a crazy quilt

pattern of stubby hemlocks and boulders about the size of a small hen house. Past experience in this area had proven that this was good resting country for whitetails and just the sort of place that I'd hole up if I were a trophy-size buck.

As I moved along through the half darkness I thought about shooting the big buck (which I'd never seen, of course) and conjured up a mental image of what he would probably look like. At that time I had done very well on deer, scoring almost every year, but never had I taken a really worthwhile rack. My bucks usually sported spikes or "Y racks" with an occasional 6-point misfit thrown in. I wanted a bragging buck in the worst kind of way and was certain that this would be my chance to get it. My brother-in-law had insisted that I would have no difficulty in spotting the rack. He was sure it was a 10-pointer or at least a more than outstanding 8-pointer. I could just see him! Deep-chested with a high arching neck and ears wide-set to accommodate that terrific widespread set of antlers. It had to be a dandy.

Fresh Deer Trail

I snapped out of my musings by spotting a fresh deer trail in the snow just ahead of my boots. Oh, come on now, I thought, it couldn't be this easy! Here was a really enormous hoof-print and from the way the toes were splayed out it had to be a very heavy deer. The deer had been walking slowly and still the toes were spread apart a good two inches. This had to be a big buck . . . and there went my hunter's imagination again. I felt sure

it was just exactly the one I was there for.

Following the tracks a short distance soon proved that the deer was still finishing up on his nightly browsing. As winter progressed all deer would spend more of the daylight hours searching for food, but this was still early December and this fellow would soon be looking for a place to bed down. I was quite sure there were no other hunters in the immediate area, so I felt relatively sure that if I followed the track quietly enough I should come across the buck right in his daytime bed. I practically had him dressed and in the freezer.

I took special care not to stay exactly in the track, just in case this old fellow was watching his back track. Every dozen steps or so I'd stop and look carefully ahead. The quiet, snow-covered forest floor was definitely an asset.

Wait a minute . . . what's this! A fresh bedding spot. Don't tell me the buck had already bedded down and I had spooked him? Not so. The tracks seemed to indicate that he had indeed flopped down and then for some reason or other didn't seem to think that this was the best siesta spot after all. He had gotten up, done a little paw-

HERE WAS A really enormous hoofprint and from the way the toes were splayed out it had to be a very heavy deer. This had to be a big buck. . . .



ing around in the snow and decided to move on a bit farther.

The tracks led uphill toward the very lip of the large flat. The light was getting much better now and the sun was beginning to show the promise of a bright day. I paused in the buck's discarded bed and slowly turned my head in the uphill direction. A massive knot instantly formed in my stomach, for there was that huge buck of my imagination doubling up his front legs and lying down. And only 50 yards away! I couldn't possibly raise my rifle for he was looking right at me. Obviously he hadn't identified me as anything harmful, for he was about to take his daytime nap. Two facts immediately became quite evident. As the deer lay down he dropped from sight behind a rotten hemlock log . . . therefore I couldn't possibly shoot him from where I was standing. If I tried a direct frontal sneak (which had to be uphill) he'd bolt out of there and into the hemlocks behind him, offering nothing more than a flying shot at the wrong end. Rather perplexing. The name of the game when one is still hunting is to get close enough for a shot. The hunt part had worked out fine in this case but darned if I wasn't just a bit too close under the circumstances.

Several Possibilities

I considered several possibilities. I could backtrack, make a big circle and try to approach the buck from the top, or I could advance slowly until he showed and try to pop him fast. (I ruled this out as unsafe and a bit foolish since the footing would be none too good even without the rifle.) Lady Luck made my mind up for me as my left foot suddenly slipped on the wet sidehill and a hidden stick cracked like a 22. The buck was on his feet and three jumps away before my rifle came up. The hammer of the 94 was cocked as the buttplate hit my shoulder, and my eye was wildly trying to find a hole through the hemlocks that contained a patch of brown hair.

Blam!

The quiet woods were pierced by a very loud shot. But it was not mine. Then a deafening silent second and I could hear sounds of the buck kicking his last. I was wrong about being alone. There was one other hunter in the area and he was at the right place at the right time!

Look at Those Horns

I uncocked the rifle sadly and picked my way up the hill to congratulate whoever it was. The first thing I noticed about the young hunter was his eyes. They were as big as half-dollars and on his smooth teen-age face they looked even bigger. He was holding the antlers with both hands and muttering to himself, "Look at those horns, just look at those horns."

I was looking at them—all 10 long, heavy points—and while I felt a bit sorry for myself, I couldn't help but be glad that someone as appreciative as this youngster had scored on such a fine whitetail. He was dumfounded to see me, as he thought he too was the only hunter for miles around. He related how he had simply sat down on the edge of the flat, hoping to spot a buck, when suddenly this big one was running right straight at him. He hadn't seen the deer lie down nor had he seen or heard me. Suddenly there was a buck in front of him and he shot him head on in the front of the neck. It was as simple as that. It was his first deer.

I helped him dress it out and together we wrestled it out to the road which parallels the Left Branch of Dingman Run. We waited there for about 15 minutes and up bounced the boy's father and uncle in an old surplus Jeep. The two older men almost fainted when they saw the size of the buck and we agreed that it was probably the trophy of a lifetime.

I did finally luck out on the last day of the season with a fat little forkhorn and consoled myself with the thought that the 10-pointer would have made very tough chewing anyway.



MY PROBLEM WAS NOT so much of shooting a deer, but which one! I selected what looked like a fat doe and put her down with a high lung shot.

10 Years Later

The first morning of the 1966 antlerless season in Perry County was bright and clear, with not a flake of snow on the ground. The woods were noisy and plenty of hunters were moving around. I elected to pick a good watching site and stay put. The bucks had eluded me that year but I was still lucky enough to hold an antlerless license in a good deer county. I was certain I would connect.

I hadn't sat for more than 15 minutes when deer started pouring past me from three different directions. The problem was not so much of shooting a deer but which one! I selected what looked like a fat 85-pound doe and put her down instantly with a high lung shot. The rest of the deer with her swerved slightly and ran straight down the hill and out of sight. Just as I was about to begin the field-dressing job, the fastest five shots I've ever heard roared back from the direction the deer had gone. This noise was immediately followed by an ear-shatter-

ing scream. The horrible thought hit me instantly. Someone's been shot! Throwing my hunting coat down beside the deer to lighten the load, I took off running down the hill. I raced wildly for about 100 yards and stopped to listen again. No screams this time but a string of profanity that would have made a Marine Drill Instructor proud echoed across the mountain. I slowed my pace as I saw the shooter rip off one more oath at the running deer and sit down on a stump with the empty rifle across his knees.

I advised the hunter that he had given me one devil of a scare and that cursing at deer was probably not the best way to get one. He informed me that he didn't particularly care if he had scared me or not and that he had a perfect right to swear at deer if he wanted to. He then volunteered a story that held me spellbound. It seems that 10 years before (when he was 16) an enormous 10-point buck had practically charged him while hunting with his father in Potter County. He had downed it with one shot and it turned out to be the biggest buck he or any of his friends had ever seen. He had had it mounted and people still dropped in occasionally just to see the antlers.

Naturally I probed deeper and I asked him if he remembered me. (I was sure he was talking about the big 10-pointer of 10 years ago.) He didn't.

I protested that he surely must re-

member me—after all I was the one who helped him dress out the buck and drag it to the road.

No, he couldn't remember and he said it was a good thing that I wasn't involved.

"You see," the sad hunter said, "I haven't bagged a deer since I shot the big one, and that was my first one. It was bad luck to do something like that the first time out and I wish it had never happened."

It was obvious that this fellow didn't remember me and maybe he was telling the truth. Still the coincidence was almost too much. I asked the final question, "Did your father have a Jeep at the time you shot the big buck?"

"Yes, he did," was the reply. "An old Army surplus job."

"And you still don't remember me?" I asked.

"Nope . . . when I shot the 10-pointer I was all alone."

End of story.

Epilogue

This is a true story and perhaps there was absolutely no connection between the big 10-pointer I saw the teen-ager shoot and the screaming hunter of 10 years later. Coincidences can be strange things indeed. But one thing, I'm sure of. In a funny way I am sort of glad I didn't shoot that buck. I'm still looking for my 10-pointer and having a great time doing it.

GAME NEWS Binders Available

Response to heavy public demand has produced a binder capable of holding a full year's issues of Pennsylvania GAME NEWS, the official monthly publication of the Game Commission. Many persons have complete files of the magazine dating back over a number of years, and have requested binders in which to file the issues. Binders which hold twelve copies of the publication are now available for \$2 each (\$1.88 plus 12c tax) from the six field division offices of the Game Commission or from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120. The price includes cost of handling and postage.

Good Old Friday the 13th

By Don Lewis

Photos by Helen Lewis

SHIRLEY SHANKEL was worried. Time was running out. Hard luck had been her constant hunting companion for 13 years, and, with only two days of the 1968 antlered deer season left, her chances looked mighty slim.

She really wanted to get a deer. As she cleared the leaves from the side of a log, she thought about her husband Bill, who had taken a buck nearly every season he'd hunted. It was hard for her to understand how some hunters could see antlers and get shooting almost every year. Hard as she tried, she couldn't put a rack on anything. No one could say she hadn't tried; she had hunted every day of the season without seeing a horn. Perhaps luck would still be on her side, she thought, settling down to watch the woods below. She knew some people wouldn't agree; after all, it was Friday the 13th.

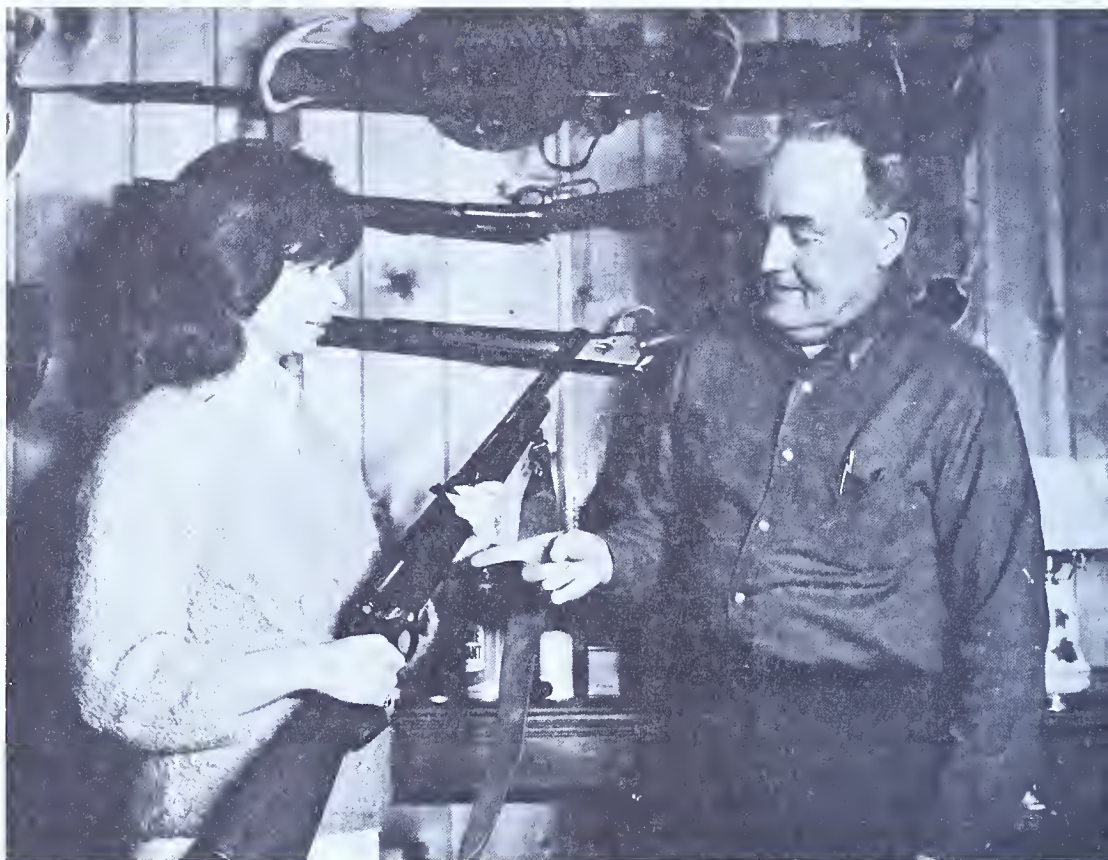
As she waited, she thought of all the things she could be doing in the house. On the other hand, she liked to hunt. She knew she wasn't a seasoned hunter, but there was something about being in the woods that fascinated her. The good clean smell, the splashing streams, and nature's unfolding drama made it easy for her to join her husband in a rabbit, deer or coon hunt. She enjoyed every minute of it and hoped her son would be an outdoorsman like his father. Also, she felt she had to get a buck for Bill. He had come from a family where some of the wives joined their husbands in the hunt for big game. In fact, Bill's paternal grandmother made her last trip to camp at the age of 82.

The new rifle that Shirley held was another reason she wanted to get a deer. Bill had bought her a shiny new 308 caliber in the Remington Model 600 for her birthday. He had been



Leader-Times Photo

SHIRLEY SHANKEL, RD 5, Kittanning, proudly poses with the nice whitetail buck she dropped on her "lucky day" after more than a dozen seasons of deer hunting.



MRS. SHANKEL SHOWS GUNWRITER Don Lewis the M600 Remington 308 she used to take her 7-point trophy.

concerned that the recoil might be unpleasant, but after several shots, she proved to him that he had nothing to worry about. She was very proud of her new rifle, and she yearned for just one good chance to use it. And at that very moment, a herd of deer appeared at the far end of the woods.

Started a Drive

Bill and his father Walter had told Shirley where to sit. Then they cut back around some fields into a hollow where Bill thought some deer might be and started a drive toward Shirley. Bill, who had shot his buck the first morning, kept clattering a stick against the brush, and Walter kept a sharp eye for a loner that might try to slip around him. They had almost completed the drive when a shot rang out, and then another.

When Shirley saw the herd, she slipped from the log and knelt tight

against it. She studied the herd through her binoculars, but she couldn't see all the deer. She knew that several more were in the background. Not wanting to take any chances, Shirley kept the glasses glued on the deer as they moved in her direction. Her heart sank when they stopped and turned quickly to the right and disappeared. Shirley lowered the glasses in disgust.

As she sat contemplating the turn of events, she nearly missed seeing a single deer moving toward her. There was no need to raise the binoculars. The early morning light made its white rack stand out against the darkness of the woods. Again she hunkered into position against the log. To her amazement, the lone buck was suddenly joined by the entire herd that had moments before disappeared. The biting chill of the morning seemed to fade, and, for just a second, Shirley Shankel was filled with uncertainty.

She knew the moment of truth had finally come; she was face to face with a buck deer!

Easing the rifle to her shoulder, she held the sights on the buck as it moved through the underbrush. She knew little about velocity, trajectory or power, but she wanted to make a one-shot kill. Her woman's intuition told her that the closer the deer got, the better her chance would be. The thing that had her worried was that it was now in the middle of the herd. Once when she had a quick chance to shoot, a doe walked in front of the buck. It suddenly struck her that, after all these years, a buck deer not 40 yards away could idly walk by without her ever getting a shot. Just as quickly, the doe walked away and Shirley put the iron sights on the buck's side and pressed the trigger. The rifle did not fire. What had happened to her new rifle! In despair she examined it only to find the safety was on. . . . What a relief!

"I thought I had lost him for sure. I kept trying to get the sights on him, and just as he was about to enter a heavy thicket, he turned and faced me. I froze the sights on his chest and pulled. He hit the ground when the rifle cracked."

"One shot did it," I said admiringly.

"No, he was up before I knew what had happened."

"Did you work the bolt pretty quick?" I asked jokingly.

"Did I!" she exclaimed, slapping her

hand against her forehead. "I worked that bolt as fast as I could and got the rifle back to my shoulder."

"What did the buck do when it got up?"

"He wasn't running fast, but I think you could honestly say he was moving right along. As he passed through an opening in the brush, I aimed at his shoulder and fired. That shot did it."

"I suppose you got a little excited then," I said, grinning.

"Well, maybe just a little. I remembered what Bill had told me to do in a situation like this, so I ejected the empty, put a new round in the barrel and pulled the safe back. I think I did everything right and proper, even though my heart was pounding."

"We all get excited," I reminded her.

"I put my tag on the buck immediately," she said. "It seemed to me that this made the deer mine. I had always carried a piece of string for this occasion, but, at that moment, I searched through my pockets in vain. I finally ripped a long piece of cloth from my handkerchief and tied the tag to an antler. I even tied a nice neat bow in the knot."

"That's what makes hunting a great sport," I told her. "You deserved the fine deer you got—even on such an unlucky day."

"You know," she mused, "Friday the 13th ought to be my favorite day. I shot a nice 7-point buck, and my son, Kevin, was born on a Friday the 13th. What more could a woman ask?"

And Then They Multiplied

Deer were first stocked in Pennsylvania in 1906, with 50 from Michigan. A total of 1192 was purchased from 1906 to 1925, including 524 from Pennsylvania dealers, 417 from Michigan, 16 from Ohio, 16 from Kentucky, 21 from Maine, 64 from New Jersey, 50 from North Carolina and 84 from New Hampshire.

Medullary Rays

The medullary rays of a tree, located in the sapwood, conduct food and water radially and serve as a food storage area.



I'd Hunted Deer Many Years With My Old 30-06.

This Season I Wanted . . .

A SIX-GUN BUCK

By Mike Ferchaw

THE DESERTED cabin gave me an uncomfortable feeling, and I knew if I didn't leave soon, I'd change my mind. A scope-sighted 30-06 hung invitingly over the headboard of my bunk, but with quiet determination I buckled the holster about my waist. The heavy handgun pulled at my belt so I eased off another notch. It still hung with an unfamiliar lopsidedness. The gun slid easily from the holster as I gave it a final check.

Some of my confidence returned as the smooth cylinder spun with the precision of a roulette wheel. An inscription on the barrel read COLT PYTHON 357 MAG. and the ventilated rib made it appear twice as deadly as a standard model. I slid the gun back in place. I was committed now.

I'm always filled with excitement on the first day of buck season, but today was special. I had finally gotten up enough nerve to use the revolver instead of my trusty old pump gun and I hoped it would serve me as well. "Good luck," the boys had said as they left earlier, and now I felt like I needed it.

As I stepped out of the cabin door, the raw wind bit at my overheated cheeks. It was still dark and frost-laden leaves crushed beneath my boots. If only the weatherman had been right—a soft layer of snow would have been nice. A short distance from the cabin, I stopped to load the Magnum.

The dark woods was a bit confusing at times but the soft gurgling of a brook gave me my bearings as I neared the edge of a deep ravine. Nature's hand seemed to have gouged out this section of woods as if in a fit of temper. Tangled brush and huge boulders

lined both sides of the cut. The light grew better and soon I could see my destination below—a heavy stand of hemlocks interspersed with tall pines.

The question of which was the best spot to stand watch was uppermost in my mind. I knew I had to pick a place that would allow me a close shot. A recent scouting trip had proved there were numerous deer crossings here, but at that time I had intended using my rifle. After trying several stands now, I finally decided on a huge flat rock. It had the obvious advantage of height and good visibility.

Disappointed

Just as I settled down, several deer crossed below. The opening they used was too small to allow a good look at this distance. I was unable to see if there was a buck among them. I was disappointed. The clincher came two minutes later. Another deer ran through the same opening and again I wasn't sure if it was a buck or a doe.

Mumbling to myself, I picked up my gear and walked 50 yards down the hill. Selecting a large dead tree closer to the clearing, I once again prepared my position. Dry twigs and leaves were carefully scraped away from the base of the tree, Thermos and lunch were set aside and my heavy outer jacket was removed. Now I selected possible shooting lanes in all directions. Satisfied, I turned my attention to the woods. Several distant shots rang. The season had begun.

A million thoughts passed through my mind as the tension mounted. "I'd better rest the butt of the gun on something if I get a shot. Better still, I'll grab hold of the tree with my left hand and rest the gun on my wrist."



SHEER EXHILARATION passed through me and I wanted to shout for all the world to hear . . . so I did. Whooping like an Indian, I charged up the hill to the biggest 9-point buck I'd ever seen.

This seemed to work well and I tried it on both sides of the tree. Now I was plagued with doubt as to which spot on the deer I should aim at. "You usually shot high when you missed the target in practice so you better shoot at the heart; at least it might hit the lungs if you miss."

While practicing every conceivable shot in my mind, a nerve-shattering snort spun me around. It was a buck and the son of a gun had caught me flat-footed! As I fumbled to get the 357 out, he was gone. It left me trembling, with the sight of his beautiful rack burned into my memory. Disgusted and shaken up, I couldn't make up my mind what direction to watch so I caught myself trying to look everywhere at once. After a few minutes passed, I finally settled down and watched the hemlocks with renewed confidence.

A Cannon Went Off

A cannon went off somewhere nearby. It shook the woods again and then once again. I slid closer to the tree. "That guy must be using a 500 Nitro Express," I told myself.

"Yipes! What's that!" Two deer had burst out of the hemlocks and headed straight at me. Then my heart sank. They were does. They passed at close range, apparently without seeing me. I hated to wish anybody bad luck but I hoped the buck that guy was shooting at would be next.

Just when I was ready to give up, a movement caught my eye far to the left. Instantly, I knew it was a deer but I couldn't see horns. It made its way down through the boulders and underbrush of the ravine, sometimes disappearing from sight. At 70 yards it turned toward the flat rock I had first chosen for my stand and that's when I saw the antlers.

My heart jammed up into my throat and my legs turned to water. I wanted to throw the pistol into the creek. Why didn't I bring my rifle!

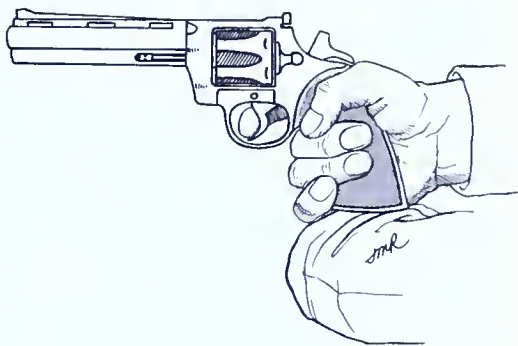
My body responded without thinking. My left hand grabbed for the tree as the gun sprang from the holster to settle firmly on my wrist. I brought it to bear on the deer's chest but the sights weren't aligned properly. Quickly I swung to another opening but this time they lined up too far back on the deer's body and that chance was lost. Desperately I picked

out a bigger opening and this time aligned the sights first then held them low on the ground. As the deer came into view I slowly raised the barrel until the sights and the deer's lower chest met. The shot went off as a complete surprise. I swear I don't remember squeezing it off.

The deer never stopped running but as the gun barked he hunched his back in a peculiar way. My experience told me it was a hard hit. Just as the buck reached the big rock, he slowed to a stop and staggered several steps sideways. By now I had taken aim and was about to shoot again when he suddenly dropped to the ground.

Sheer exhilaration passed through me and I wanted to shout for all the world to hear . . . so I did. Whooping like an Indian, I charged up the hill—and if you think that was excitement you should have been there when I saw his rack up close! I couldn't believe my luck. It was the biggest 9-point I'd ever seen. My thumb and forefinger couldn't circle its girth and each of the long points was palmated as they left the main beam. I estimated it had at least a 20-inch spread.

I carefully searched for evidence of my hit, but I couldn't find any on the side that was up. I turned the deer over. Sure enough there it was; a



MY HANDGUN WAS A Colt Python 357 Magnum, and I was sure it could do a good job on a deer in the woods, though I felt a twinge at leaving my old '06 behind in the cabin.

small hole about the diameter of my thumb where the 146-grain hollow-point bullet had entered.

After field-dressing the animal, I found the bullet imbedded in a rib on the right side. It had entered the left side, cut off one rib and practically blew the heart into two pieces. All of its energy was expended in the chest cavity. Although this deer ran 20 yards after it was hit, death came within five seconds.

I couldn't have done any better with my 30-06, and all I could think of was, "Boy, do I have a story to tell when I get back to camp!"

Hunter Safety Program Cited

The Pennsylvania Game Commission's hunter safety program again has been recognized as one of the top ten in the nation by the International Association of Game, Fish and Conservation Commissioners.

Each year the association selects the best hunter safety program from states eligible to win the top award, and then lists the nine other states having excellent programs, without designating any ranking. Pennsylvania's program this year, for the seventh time, was included in the nine.

The Keystone State's program was adjudged the best in the nation in 1966. Under judging rules of the association, Pennsylvania is ineligible for the top award for a period of five years.



Twenty-five Years Is a Long Time to Hunt Without Success, but When Lady Luck Finally Smiled, Don Sorgen Realized It Was All Worthwhile, for He Had Bagged...

Pennsylvania's Number One Bear

By Donald E. Sorgen

As told to Keith Hinman

LMA Northcentral Division, Pennsylvania Game Commission

SITTING WATCH on the bench in Bear Pen Hollow on the next to last day of the 1968 bear season, my thoughts strayed to the many hunts in which our party participated over the past 25 years. The getting up in the darkness, the hurried breakfasts, the long, hard climbs up the steep mountains of Clinton County, the many times that I had sat unsuccessfully on watch in an effort to get a bear. Even though our party had taken 16 bears during the past 25 years, I had never shot one. The watchers next to me had bagged several, and I'd had one chance at a nice 250-pounder in the same spot where I was now sitting. That time I hit the bear, but it went down the hill and was dropped by the watcher down below.

Joe Helbley and I are the only remaining members of the original 10-man party. We started hunting with our fathers' crew, who had been avid bear hunters for over 50 years. In fact, Joe's ancestors were some of the early settlers in Clinton County and had handed down the sport of bear hunting to Fred Helbley, Joe's father, and then on to Joe and me.

We have succeeded in interesting some young men in bear hunting, even though it must be the hardest type of hunting in Pennsylvania today—lots of climbing, walking in tough terrain, and then, hopefully, the hard work of getting the bear out of the woods after a successful hunt. Bear hunting certainly isn't a sport for a lazy person!

We had hunted all week in the same general area, but with no success. Ordinarily, Clinton is one of the top bear

counties in Pennsylvania. The section south of the Susquehanna River is farmland interspersed with woodlots, while the northern half is almost solid oak forest with just forestry roads leading in almost endless circles—seemingly going nowhere but all connecting if you know where you want to go. In the northern half of the county the hills are very steep with rhododendron in the valleys and laurel on the hills. There are high plateaus covered with red oak, rock oak, and white oak and just a smattering of scrub oak. In any one year, one of the oaks is usually good for a crop of nuts, making Clinton County one of the most consistent areas for bear hunting.

This year was the exception. None of the oaks had produced a crop. While a few trees here and there had nuts, no concentration was observed and the bear were moving from one place to another in an attempt to store up fat for their long winter hibernation. The bear could be anywhere in this 500-square mile area.

Bear Pen Drive

Today we decided to put on the "Bear Pen drive" first, as our party had taken several bear over the years on that particular drive. I was one of five men elected to watch, and I climbed to the top bench. The others were positioned down the mountain-side. We had five drivers and the drive was to start about a mile away at 8:30 a.m.

I sat down with my 308 Winchester Model 88 across my lap, waiting for the drive to start. I knew that even

though a bear might be jumped, there were a lot of ways it could go and never be seen by a watcher.

The weather was quite mild, about 45 degrees, with slight traces of ground fog clinging to the hilltops. Occasionally a few drops of rain spattered down through the trees. The sun tried to break through the clouds and fog but never quite succeeded.

Faintly, I heard the start of the drive. Picking up my rifle, I checked the variable power scope and set it on 2½X, as the distance across the sag to where a bear should run was only about 150 feet. The first 15 minutes after the start of a drive are the most exciting. A bear, jumped from a nest, can cover a lot of ground with his awkward, ungainly gallop, and he can keep it up all day.

About 8:45 a.m. I heard a rock roll just out of sight across the sag, and I hunched forward, expecting the usual deer to come through. This time, though, a black object appeared. It was a bear, picking its way slowly along the hill, angling upwards to reach the top about 100 yards distant. A quick glance was enough to tell me that the bear was legal and I raised my 308, moving the safety off. The cross wires settled on the shoulder. A gentle squeeze and the scope jarred off the target for an instant. As I looked through the scope again, the bear seemed to slowly fold and sink to the ground. I had my bear.

When the drive was finished, we

collected at the bear and admired its pelt and size. The bullet had entered the shoulder and shattered the spine. It was a nice trophy. We agreed that it might go as high as 325 pounds.

After field-dressing the bear, I went to get my Jeep while the rest of the party was to drag it down the hill to an old logging road that came down the sag. It wasn't much of a drag, no over 150 yards.

When I arrived at the designated point with my Jeep about 45 minutes later, my companions still hadn't been able to get the bear down to the trail. Estimates of weight were being revised upward. Now it was 400 pounds.

We finally got the bulky animal on the Jeep and proceeded to Reeder's Meat Market near Lock Haven to have it weighed. When the needle finally settled, it showed 476 pounds field-dressed!

We took the bear to the residence of Fred Helbley and hung it on a hog scalding beam. Helbley, an old-time bear hunter, said it was the biggest bear he had ever seen in his 84 years, most of which were spent in hunting.

I entered the skull in the Game Commission's 1969 measuring session. Its score was 21 12/16, which makes it the largest recorded trophy in the history of bear hunting in Pennsylvania.

Perhaps a larger bear has been—or will be—taken sometime in Pennsylvania, but this was certainly an outstanding trophy for me—my first bear in 25 years of hunting.

Reptile Club Formed

A new reptile hunt club recently was formed at Linglestown, Pa. Its basic objectives are to promote sportsmanship among snake hunters, police sanctioned snake hunts throughout the state and to prevent stockpiling of reptiles. Its aims are educational, with the intent of preserving this form of wildlife. Club rules prohibit the killing of snakes except in specific instances involving the poisonous varieties in extreme emergencies. Persons interested in joining this organization should contact Warren Clay, P. O. Box 6075, Linglestown, Pa. 17112.



THE GANG IN FRONT OF THEIR semi-finished cabin. Dick McCullough, Bob Logue, the author, Don Barlow and Bill Hubbard with his big buck.

The Deer Were There, and These Guys Got 'Em, Including . . .

The Big Buck in the Grapevines

By Bob Carter

I WAS PICKING my way along the steep, wild grape-tangled bank that curved away from the spring just below camp when I first saw that big-racked buck.

It was late October and my first day of hunting from our new redwood camp in western Clinton County, near Lock Haven. Grouse were my target, in good supply on the benches that create occasional flat walking places on this otherwise steep mountainside.

When the buck slipped from beneath a huge jumble of wild grapevines that hung from an old red oak, I didn't look sharp at first. There were many deer around the camp and bouncing them was a regular thing.

Then I saw his antlers. They were big and heavy. Eight symmetrical tines, but a rack that looked twice as big as those of the usual mountain 8-point.

He glanced back for a second, then with a few easy bounds was over the top of the bank and out of sight—a neat escape route. This had to be the whopper that several other camp members had spotted there earlier in the month.

It was still six weeks to our first buck season in this new country, but already we had a trophy to try for.

Strategy

We made our plans to nail this big buck the first day. They were thorough and logical. We knew how invisible a buck can get after his woods is flooded with hunters for a couple of days. We figured our best chance was to trap him off base first thing.

While we generally prefer hard driving for bucks to still hunting, we agreed to allot the first hour of opening day to a combination crack at Mr.



BILL HUBBARD WITH HIS buck where it fell in the oak thicket. The impressive 8-point weighed 195 lbs., field-dressed, made average-size deer look small.

Big. Eight of us were in camp, plus our cook, Arv Westlund. The plan evolved into an encircling technique. Since the buck was bedded in almost the same spot every day, we laid out a circle of stands on a perimeter around that area. We stood to spot him if he broke down, up, or straight away just along the bank. I was elected to walk in and jump him at the opening gong.

The first morning was still and chilly—about 30 degrees. Frost coated leaves on the ground. After my eager friends had disappeared into the morning dusk, Arv and I stood on the front porch and listened to their steps crunching away to silence. My coffee tasted good. Arv is one of those shrewd cooks who uses lots of coffee, plus filters, in the brewing basket.

Ten after seven. Time to hit it. I carefully pressed four rounds into my

270 Winchester and closed the bolt. With seven campmates flanking me out there, I felt like a bird dog being sent in to make the flush.

Well, I thought, I'll just nail him on the first hop. As I bent under the first grape tangle, I could visualize him beginning a sneak up that bank. It got lighter. At any second I expected one of those single shots that usually mean a score. It was quiet. My eyes strained as the light built. No deer. Then ahead of me was one of our troops Bob Logue.

"Nothing," he said, shrugging. He blew his whistle and in a few minutes the group had collected.

Total sightings: one red fox, several gray and black squirrels and four grouse flushed from some hemlocks by Bob.

Planned Two Drives

Confident that we'd bump into the buck we had in mind somewhere, we quickly planned our next two drives—longer ones—to launch the opening day hunt in earnest.

We moved plenty of deer, but the first few drives were dry runs on antlers. Once, I caught movement high above as I stood a watch beneath a big maple on the brink of a steep ravine. A hen turkey, apparently flushed by our drivers a quarter-mile away, was coming right at me on stiff wings. Swerving upward at the last instant, the bird landed heavily right above. As I slowly tilted my head for a good look, she spotted me and was off again like a buzzbomb. In five seconds she was gone, right down the heart of the gorge.

I looked at my loud, three-dollar pocket watch. Noon plus five.

Scanned my perimeter again. There came a batch of deer, sneaking. And just to their right came Dick McCulloch—sneaking. I glanced down the rim to where Mark Geibig knelt against a leaning dead snag. Mark could see horns, apparently, because I heard the safety on his 257 click off.

The deer heard it too and froze.

Dick heard it and froze.

For a minute nothing moved. The lead doe I could see well. Stretching her neck, she sampled the air, then snorted. Then she made up her mind, turned and bolted right toward Dick. Mark and I watched the stampede.

As if he were waiting for a grouse to safely clear his hunting partners, Dick held his 30-06 at port arms, then spun as the buck clattered by him trailing seven other deer.

Wham! Hair flew and the buck rolled beautifully, 10 yards from Dick. We convened to admire the clean neck shot. It was a good 7-point.

"No giant," Dick smiled, "but I'll take him."

Back at camp an hour later, we gobbled Arv's hot soup and corned beef sandwiches, with the first score hanging from the rafters of our unfinished porch outside.

"We need to change the bylaws," said Mark. "No room for a guy who shoots 'em sitting."

It was hot in the camp, and, first day or not, I suddenly felt very tired. A heavy cold had been chewing at me since Thanksgiving morning and now I felt worse instead of better.

"Let's hit it," I said, "before I doze off."

Worked Hard

We worked hard the last couple of hours. One buck was sighted, but he slid by our watcher in a thick strip of pines, then evaporated, as whitetails do, leaving a frustrated trigger finger.

The hike back to camp was only a mile, but I, usually the pusher, had to stop to rest going downhill. My head felt thick. As we passed the grapevine tangle where the big boy did his beautiful sneaks, I didn't bother checking it out.

It was a noisy gang at dinner but I soon gave up on mine and crawled, aching, into the sleeping bag. I was asleep in minutes.

In the middle of a wild dream of elk-antlered bucks meandering by while my safety refused to release, I

heard Bob Logue yelling from way off in the woods. "Hey! Hey!"

Then I was awake, damp with sweat and red hot. Logue was bending over my bunk squeezing my shoulder. "You look crummy," he said. "Let's go get you some penicillin. Don't you want a whack at the big one?"

"Frankly," I groaned, "he can go peddle his papers for all I care right now. So I must be sick."

Getting up, I put on all the clothes I could find, including my parka. I had switched from fever to chills.

The 30-mile bumpy ride to another camp, where a doctor friend was up for the week, was another big sleep. I stumbled in, got zinged with the needle and back to the car. In a half-hour we were back to home base.

I wakened to broad daylight. Arv was snoring in an overstuffed chair in

TWO POLES MADE A four-man litter for the 8-point, enabled the gang to get it back to camp without rubbing the hair off on dry ground.





HUBBARD'S BIG DEER, here hanging at camp, was mounted later and now serves as a yardstick for others, as well as providing inspiration for memories of a fine hunt.

front of the Franklin stove. Everyone else was gone. It was quiet. No wonder. It was 8:30.

Unbelievably, I felt great. From hospital case to deer hunter in 10 hours!

Dressing rapidly I yelled at Arv, "Where'd the troops go? Are they driving?"

"Out the bench, they said," he reported sleepily.

"Yeah, after my trophy, the so and so's!"

"True, true. Care for some breakfast?"

"Yeah—egg sandwich and coffee."

The loud bellow of a rifle came from nearby.

"I've gotta get out there," I said, as Arv broke an egg yoke with the corner of his turner. "That was on the bench."

In 15 minutes I was hustling up the trail, interest in life fully revived. Two unfamiliar hunters had just dragged a large buck up the bank and were getting ready to clean it. It was a 4-point.

Relieved, I went on to run into Bob Logue.

"Good afternoon," he said. "If you'd like to do a little hunting, we have a buck located in the grapes."

Angling into the thicket we started our drive. That tripped a day of shooting that began to fill our empty porch rafters quickly. A 7-point, a 6-point and a spike were collected, all within a mile of camp.

And, to make the day complete, the big one scrambled from beneath a blowdown right beside us after we had finished a drive at sundown on a high ridge point. A single bounce put him over the steep side. We rushed to the edge and looked down. How had that buck kept from cartwheeling all the way down to Beech Creek? I was steep. Only the clatter of small stones rewarded us.

The sneak was up to his pre-season tricks.

"Tomorrow, gentlemen, I will surprise him," I reported to the group.

With two of our crew returning to the city that night, only Bill Hubbard and I were left to fill out. Four nice bucks were on the porch by dark.

That night I appreciated dinner.

"Let's hit that scrub oak flanking the mouth of Single Run," I suggested over dessert. "In the morning, every deer in the area should have retreated to there. It's nice and steep and loaded with boulder piles."

"Great to see you recovered from the sniffles," groaned Don Barlow whose machinist's job did little to condition his hiking legs. "Yesterday, you couldn't climb a doorsill. Now you want to give me heart damage."

"That should be good though," Hubbard said. "Those bucks love it steep cause it keeps the city kids away."

Rough Climb

Hubbard and I were the lucky watchers the next morning and we raced the sun to scramble up the scrub-oaked mountainside from a faint mine car dinky track that followed the creek down the gorge.

Several times we stopped to catch our wind. We had asked the drivers for a half-hour to get in position. I dropped Hub two-thirds of the way up and continued my climb. There was no good vantage point and no low tree limbs to boost me above the scrub oak. It was just plain thick. A hundred feet up the bank, however, was one small red oak. If I could get there quickly I'd be set.

Drive Started

The drive must have started, I thought. Better hurry. It was hard to be quiet as the scrub oak branches pulled at my legs.

I stopped to listen. Stones clattered. Deer ahead of me. They were angling downhill to Bill. Lying on my stomach I caught flashes of legs close to the ground. They were right on top of me, but totally blanked out by the dense brush. I had moved at the wrong time, just when they were headed into me.

Be awake, Hub, I thought and held my breath. A hundred yards out, now, I could hear a silent driver coming, cracking brush. Some deer would have to make a decision pretty soon.

Blam! Blam! Bill cut loose. In seconds, deer were all around me. Busily, I scanned for horns. Big deer and little deer everywhere, but no antlers. In a minute all was quiet.

"Hey, Hub, how'd you do?"

"Ho, Ho—come and see the granddaddy!" came back from just below me.

I struggled downhill through the thick rusty oak. Hubbard sat on his

heels beside a monster 8-point, sweating but grinning. The buck was big all over.

Hubbard told his story as the driving crew assembled and shook hands.

"I saw feet down low and those horns above the oak. Nothin' else. He was 20 feet from me. When Logue came through, the does all scrambled toward you and he just laid down. As I raised the gun, he saw me and jumped. My first shot knocked him. Since it was so thick I put one in his neck."

I stood looking at the trophy buck and couldn't avoid a sense of envy, even though I was pleased for Bill.

"Guess we need one more drive," I said, "to fill us up."

A shot rang out in the gorge below. Turning we saw a nice buck burst from the laurel in the creek bed and start straight up the ridge across from us.

"Rap him!" said Hub excitedly.

It certainly was an action morning.

Sitting quickly, I took a rest across a log and dug in my heels. The buck stopped to look back, a good 300 yards away. I squeezed off a shot from my 270 and was surprised when he did a nosedive into the nearest brush pile. This 6-point filled our last tag and it was 8:30 on the third morning of that Pennsylvania buck season.

"Too bad in a way that we had to get the big rascal the first year here," said Hubbard, as we assembled a four-man litter to tote the 8-point out. He weighed in later at 195 field-dressed—a huge deer for mountain range.

"True," said Bob Logue as he surveyed the sweat streaks, dirt, buck blood and scrub oak scratches on his hands. "But I have a feeling this little jungle is growing at least one more big bomber for next year."

The big one now hangs—beautifully mounted—at the camp, as a yardstick. Some nice bucks taken there since have failed to match him for horns or super shrewdness. But one will show up one day, where it's thick and steep.

Subscription Refunds

Occasionally GAME NEWS gets a request for a refund because of a subscriber's death. It is not possible to make such a refund; however, we are glad to transfer the remainder of the subscription to any other person designated by the family of the deceased.

The Biggest Non-Typical Whitetail Buck Measured During Pennsylvania's Last Deer Records Program Was Taken in Indiana County in 1968 and Measured 175-1/8. Here Is the Story of . . .

Old Wire Head

By Vincent Busi

**As told to Fred H. Servey
CIA Southwest Division, Pennsylvania Game Commission**



VINCENT BUSI and his outstanding non-typical buck, the best of 31 deer he's taken in Pennsylvania.

THE TEMPO of the anticipated deer hunt was at its peak on the morning of December 2, 1968, as my brother from Ohio and my 14-year-old son and I enjoyed our breakfast of hot cakes and sausage. All night long I had tossed and turned in bed with visions of 40-point deer running all over the place. I've had this same

feeling the night before every deer season since I was 12. I have been a fortunate hunter every year since that age and, at the age of 43, have managed to bag a deer for 31 consecutive years. (Thirty of these deer were taken in Indiana County and one in Potter County.) As I finished my breakfast I wondered: "Will my lucky string continue . . . will I be on the right watch . . . will some other hunter be in my spot . . . etc." I guess these questions are on the mind of every other deer hunter in the state of Pennsylvania just before the season opens.

We loaded our gear in the truck and headed for an area between Homer City and Blacklick, known as the old C & I Railroad property. My brother had hunted small game there earlier this hunting season and had seen some nice bucks almost every time he was out.

It was still dark when we arrived at our parking spot, and in short order we were on the two-mile hike back into the woods where the bucks had been seen. Our plan was to position ourselves on good watches with the hopes that, as the action started, other hunters would drive the bucks back into this more heavily wooded area.

As the sun came up I could see many deer rubs on small trees, as well as deer trails through the heavy leaves and scattered areas of ruffled leaves where deer had been feeding the night before. The quiet of the morning was soon shattered by three rifle shots in the direction from which we had come. Our plan was working! Shoveled them this way, I thought to myself.

For the next several hours I heard shots all around me but nothing close. I had not seen a deer by 9:30 a.m. Had my luck gone sour? I decided to change my watch and started to follow a rocky bench toward the most recent shooting. After I walked about a quarter of a mile, I ran into an old friend who was just finishing dressing out a nice 8-point. When I congratulated him on this one he just shook his head in disgust and said he wished he hadn't shot this buck. When I asked why, he told me about a deer called Old Wire Head and said that he had walked by shortly after he shot his deer.

He had seen this magnificent buck with tremendous antlers several times during turkey season. The deer was easily recognized by a large ball of wire that entangled his left antler. It was surmised that the huge buck, in his efforts to polish his antlers, had picked on a turkey feeder in the area and become entangled in the turkey wire. He'd proceeded to tear one side out of the feeder, and ever since had been sporting the ball of wire on the left antler.

Jokingly, I told the old-timer that I knew just where this deer would cross and then I bid him farewell. I took a position several hundred yards away on a huge rock ledge that was surrounded by dense underbrush. It looked like the most likely place for a buck to sneak through.

After hearing about Old Wire Head, every minute now seemed like an eternity. After 20 minutes passed on my new stand, I spotted the first image of a deer on that day. *Was it him?* I watched the deer for several minutes as it sneaked its way through the underbrush. Suddenly I saw it—the distinct flash of antlers in the sun! I

have seen the flash of antlers many times before, but nothing like this. It was like the flash of a mirror. As soon as I saw this I knew I was looking at Old Wire Head. His antlers were huge, and entwined on the left antler was the ball of wire reflecting the bright sun.

As the buck entered an open space, he increased his speed from a walk to a sort of lope. I pulled up my scope-mounted 243 and fired. The deer staggered and went into a full run for about 25 yards. And then he fell. When I got to him I found a good clean shot right in the neck. I looked at my watch; it was not yet 10:30.

The two-mile drag back to the car was a real grind. There was no snow, which made the dragging more difficult. On the way back my son, brother and another hunter joined me in the drag. My son and brother told me they both had shooting at several bucks but with no luck in stopping one. Several days later I heard that 14 deer were taken in this area.

Later in the day the old-time hunter came by my truck and stopped to look at my trophy. He said very little, just shook his head in admiration.

During the winter I read in a Pittsburgh paper that the Game Commission would be measuring trophy heads in Ligonier on May 3, 1969. I took the antlers to Ligonier and I found that my deer measured 175-1/8 in the non-typical class, and that it was the largest in that class measured yet in the Southwest Division. I was notified later on that Old Wire Head was the number one winner in the state in its class.

I am looking forward to many more seasons of deer hunting in Pennsylvania and you can be sure it will be hard to get me out of Indiana County.

Pennsylvania's First Antlerless Deer Season

Pennsylvania's first special antlerless deer season was December 19-21, 1923, in Washington and Quincy Townships, Franklin County. One hundred licenses were allotted at five dollars each. Eight legal and one illegal deer were taken.

Many Big Bucks Have Been Taken in Times Past in Pennsylvania, but They're Not All Gone. Record-Size Racks Are Still Around, as Proved by This Story, the True Account of . . .

A Trophy of Today

By Robert G. Smith

PENNSYLVANIA has long been known as a great deer hunting state insofar as numbers of animals harvested are concerned. In recent years, the Deer Records Program, conducted by the Game Commission and using the Boone and Crockett measuring system, has proved that many fine trophy racks have been, and are being, taken in this state. As a young hunter interested in trophy whitetails, I have been curious about how many of these record book deer were taken since I began hunting. Visits to the measuring stations and examination of published data have shown that many outstanding deer have been bagged in recent years.

During the 1968 season, a trophy buck was taken in my home county by John Oldham of Bedford. Measured during the 1969 program, it scored 162 points in the typical class, which put it in third place in this year's standings, only four-tenths of a point behind the leader, which was taken in 1941. It was the largest typical buck known to be taken in the state during 1968.

During the previous several years, reports and sightings of a large buck were discussed by local residents. Although the deer taken may not be the same, I personally feel it is, because of the size of rack and the area involved.

Here is the story of one Pennsylvania trophy that spans a period of three years.

On opening morning of the 1966 antlered deer season, I was watching an area where I knew a large buck had been feeding.

Slowly the blanket of darkness rose and shadows took definite shape. At the opening hour of 7:00 a.m., I heard a shot in the distance. Someone was opening the season with a bang.

Nothing moved or happened for the next 30 minutes. Then two shots rang out up on the ridge overlooking the valley. I became very alert, watching for something to appear. Suddenly a buck started across the field. I could see his large rack, and I fired.

Thrilled and Disappointed

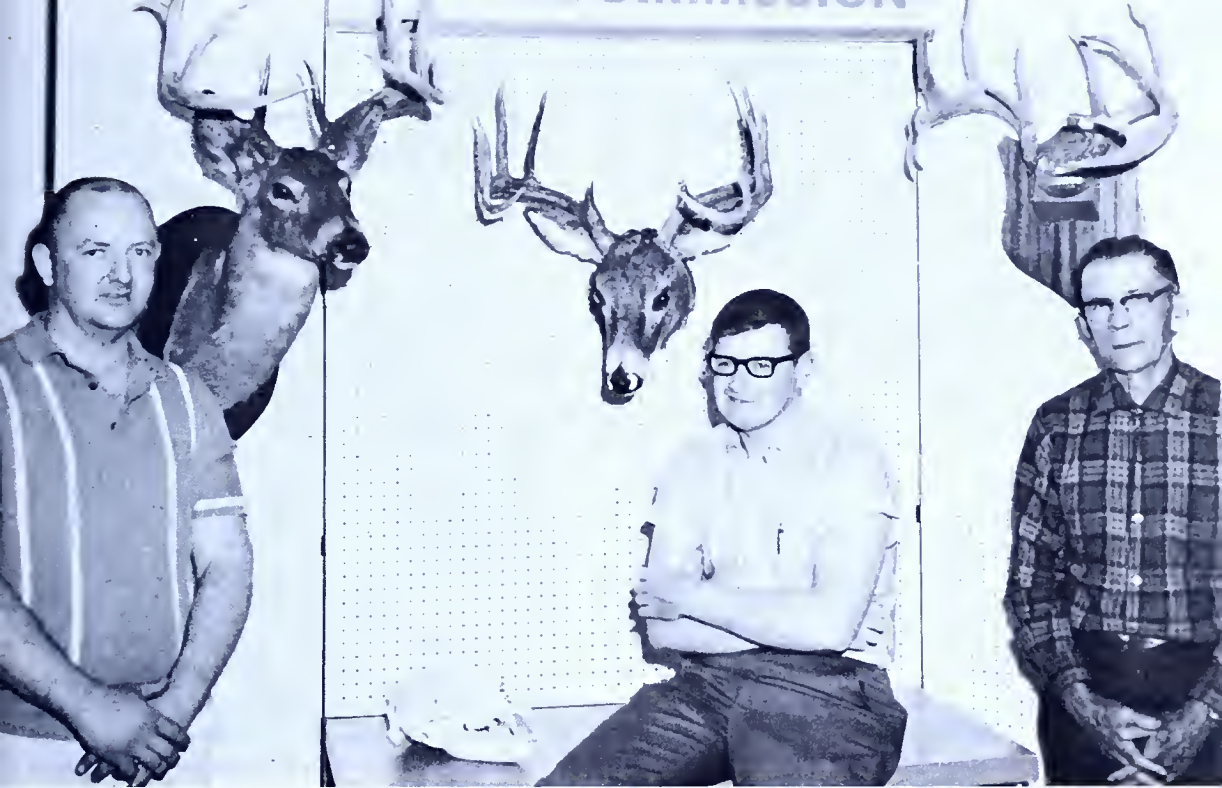
All of this happened fast. When I examined the deer I was both thrilled and disappointed. He was a beautiful 8-pointer with a 17-inch spread. But he was not the buck sighted before the season.

That was the best rack I have taken to date but I had hoped and planned on Mr. Trophy himself. Still, I was pleased.

My father phoned me that evening and told me to bring my deer to his place and he would help me skin it out. When I arrived, Dad and a neighbor, Jack Goad, were already skinning out another buck. My uncle, Clark Ferguson, and a local farmer, Gerald Hershberger, also stopped to assist in the dressing of these deer.

With plenty of help, the skinning job was completed in short order. Afterward we all had coffee and swapped deer stories. In the discussion, I suggested that we hunt the coming Wednesday. This would be the first hunting day my father would have off work.

Our plans were to place Dad on my stand and Jack Goad and I would



JOHN OLDHAM'S EXCELLENT BUCK, center, displayed by Bob Smith at PGC measuring session. Left, Bill Grace of Hopewell with his fine 147-4/8 trophy and, right, J. E. Ferry of New Enterprise with his beautiful 160-score entry.

drive toward him. Since Jack and I had taken our antlered deer for this season, we would be hunting without rifles. You could say we were playing dog on this hunt.

When Wednesday arrived, Dad left before daylight to get to the stand. He was using my 270 Remington rifle mounted with a 2-7X scope and using 130-grain handloads. This was the same combination I had used the first day of the season. I had placed the scope on low power to give a larger field of view, as Dad had never used a scope before.

Tom Cessna, a friend and fellow hunter, had joined the group. Tom was the only one of the drivers carrying a rifle. We started our drive at approximately 7:15 a.m. on the ridge overlooking the bottom where Dad was stationed.

Just as we started, a car stopped on the valley road below and a hunter jumped out, rifle in hand. We did not know it at the time, but the big buck

had been standing in an open field. Glenn Shaffer, the driver of the auto, had spotted him. Before he could load his rifle, the deer disappeared into the choppings.

We drove the ridge and then proceeded for the bottom. As we neared the woods, Mr. Shaffer approached and told us what had occurred. He believed the buck was still located in this small section of woods. Since Dad was stationed on the other side of the trees and we had heard no shooting, we knew the deer hadn't emerged on that side.

We now had a total of four men here and my father on watch. Here was where we'd score, I thought. How wrong! We lined up and started our drive. We were stationed about 40 yards apart and moving at a steady pace. A shot rang out. I whirled to see Tom Cessna aiming. I ran back to the field in time to see the big buck crossing the field and heading for the ridge. If only it had crossed on through

the choppings, Dad would have had shooting.

When Dad joined us, he had a tale to tell. A deer had crossed the field just at the break of dawn about 200 yards from his stand. He had studied it through the scope but could not determine if it had antlers because the scope was placed on low power and he never thought to turn it up on high power. If he had, he might have had shooting. How could a buck get so lucky? Three narrow escapes in a two-hour period.

Another Break for Buck

Clark Ferguson, Don Walters and Simon Mock, all local hunters, joined us then and we headed for the ridge where the buck had disappeared. We stationed our watchers and started our drive. The buck walked out about 80 yards from Don Walters and stood there. Don didn't shoot because he thought he was shooting toward a farmhouse located nearby. When checking, we noted the house was not even near being in the intended line of fire. Another lucky break for Mr. Trophy.

The deer circled back into the same area, and we drove the same woods again. I was driving all the time and on this drive I was located between Simon Mock and Jack Goad. As we neared the end of the drive, Simon yelled, "There he is!" I could see Simon aiming. Two shots rang out. The deer raced out of the woods, past our autos and disappeared over the hill. We had neglected to place a watcher in that area. Lucky break number five for Mr. Trophy.

It was near noon as we started after the deer again. We drove the woods where he disappeared, but to no avail. He had given us the slip. We gathered together and were discussing where the deer could have gone. Don Walters wanted to check a small stand of pine trees, located at the end of an apple orchard. There could not have been more than 30 trees in this location and we were ribbing him about

Give

GAME NEWS

To a Friend . . .

a deer staying there as a person could see through the whole group from the road. Don was insistent, so we climbed into a pickup truck and headed for the area. As we neared the trees, the truck slowed to a crawl. All of a sudden Tom jumped from the truck cab and yelled, "I see him!" The buck was lying under a small pine tree about 60 feet off the road. Feet flying, everyone abandoned the truck, fingers working feverishly to load rifles.

The deer stood up broadside and Don missed him standing. At the blast of the rifle, the deer started down the hollow on a dead run. With head back, hooves flying and body close to the ground, the buck was really moving. All told, 18 shots were fired and *no* one touched the buck. This deer must have had his own private four-leaf clover field. After he disappeared, a more disgusted and sorrier group of hunters you couldn't have found anywhere. We spent the rest of the day trying to relocate the deer but he had given us the slip. What a day it was! A hunting day to remember.

We had been close enough to see that this particular deer was at least a 12-pointer with a wide spreading rack. A few weeks after the season, he was spotted again by local residents.

In the fall of 1967, reports of a large buck in the same area again were circulating. During early squirrel season I was sitting in the woods one morning hunting for squirrel. About 35 yards away a doe stepped into view. She kept watching behind her so I figured another deer was following, but I was not expecting what I saw. When this deer came into view, all I could see was horns. I could hardly hold the rifle steady to look at him through the scope. The rack was wide and had high points everywhere.

I guessed him to be a 12-pointer.

Never again that fall did I see that buck. I shot a 4-pointer that season but I still could not forget that large buck. Asking around I could find no one who got a buck of that size in this region.

On opening day of the 1968 buck season I was on a hillside overlooking a valley below. Approximately at eight o'clock I heard shooting from the other ridge. It was John Oldham, a young farmer. He had finally collected Mr. Trophy Buck.

John said he left his house at day-break and headed for the far end of his farm, where he had observed a large buck. John was located at the edge of the woods when a doe came along. Following her was the buck. John had a single-shot 30-30 rifle and put the deer down with the first shot,

but it got up and staggered down through the woods. John ran after him, trying to place another shell into his rifle. He says he lost a few shells in the shuffle but he reloaded and shot again and down went the deer. He then reloaded and shot the deer in the neck, finishing it.

That evening many local residents stopped to admire this fine buck. Later, I mounted the deer for John and I also took it to Huntingdon to the Pennsylvania Game Commission measuring station.

The antlers had 14 points with a 21-inch spread and, as noted earlier, scored 162 points under the Boone and Crockett system.

This was a trophy of today, so keep trying—maybe some season soon Pennsylvania will yield a similar trophy to you.

Days of Yore



THIS BAG OF SMALL GAME WAS TAKEN on a week's hunt in Adams County in 1927 by (from left) William Gerhardt, Ralph Patterson, who submitted the photo, James Nolen, now deceased, and Lawrence Rittenhouse. Mr. Patterson, who now lives in Reading, but at the time of this hunt lived in suburban Philadelphia, visited the **GAME NEWS** office recently and said he still owns and uses the Fox shotgun shown here.



LEWIS HAJOS with the big buck that took first place in the 1969 measuring program.

Top Typical Whitetail of 1969 Program

THE LARGEST WHITE-TAILED DEER measured during the 1969 Deer and Bear Records Program was taken by Lewis Hajos, then of Clarks Summit, Pa., in 1941. This outstanding buck scores 162-4/8 by the Boone and Crockett method. Hajos, who now lives in Jermyrn, describes the hunt:

"I was 29 years old in 1941, and had never shot a buck. When I left the house that day, I never expected to get a monster like this one, either, I can tell you that! I went over to Fleetville to meet a friend, and he took me up to Baylor's Woods—that's in Benton Township, Lackawanna County. We started out together but got separated before long. I looked for him awhile but didn't find him, so just went on hunting by myself.

"I remember crossing an old wire fence and sitting down on a sidehill under a tree, with my rifle on my lap. I had a slide-action Remington 32 caliber. After about a half-hour I heard a rustling down to my right in a small bunch of heavy hemlocks. Pretty soon this deer came out, sort of 'fox trotting.' He looked like a giant to me. I picked up my rifle and rested my elbows on my knees and aimed for the neck. The first bullet hit a fence wire and never touched the deer, and he took off runnin'. I pumped another shell in that old Remington and shot again, but this time I was too far ahead. The bullet hit in front of him. He turned back the way he'd come and my third shot took him in the shoulder. That was it. Two friends came along a little later and helped me drag him out. That was a hunt I'll never forget."



HARVEY HOLLENBECK AND HIS beautiful archery trophy.

Best Bow Buck of Program

HARVEY HOLLENBECK, RD 2, Susquehanna, Pa., was hunting alone when he got his chance at the beautiful buck which was to be the top archery entry in the Game Commission's 1969 measuring program. It was late in the 1968 archery season and Hollenbeck was several miles south of Susquehanna, on stand near the edge of a woods where he could watch a field. In late afternoon, as the light was growing dim, he heard a commotion in the woods and saw the buck approaching. It was hooking bushes and saplings with its antlers, as if in rut. Oblivious to Hollenbeck, it came within 25 or 30 feet as he prepared to loose an arrow. Hollenbeck's first shot was a miss. The second, driven by his 55-lb. bow, entered behind the shoulder and the buck dashed off into the woods. Before he could unravel the trail that afternoon, darkness set in. Certain that he would find the deer, he returned early the next morning with his brother Ronnie. They soon located the fine trophy about a hundred yards from where it was hit. Hog-dressed, the buck weighed 181 pounds. Its antlers scored 137-2/8 by the Boone and Crockett system.

Heavyweight Whitetail

A 9-point buck taken on December 1, 1966, by James Newhart of Lawton, Pa., in Susquehanna County, weighed 213 pounds field-dressed. The weight was taken on Pennsylvania Game Commission scales at the deer check station near Tunkhannock.

Pennsylvania



GENE STEFFEN, Harrisburg, above, with his 8-point. **George Fetcenko**, Phillipsburg, with 10-point from Centre County. Bottom, 12-year-old **Bonnie Frey**, Mifflinville, with her trophy deer.



FRED MASSA, Warren, and his 10-point trophy taken with bow, above. Below, **Bob Hepner**, Berrysburg, with 9-point taken in Northumberland County. Buck has 26½" spread, scored 139-4/8.



Whitetails . . .



ROBERT ROZETAR took the 188-4/8 score non-typical buck, above, in Schuylkill County in 1948. Below, Bernard Van Sant, Newtown, with fine 9-point bagged in Bucks County.



MARK VOORHIES, Sandy Lake, with beautiful Venango County buck, above. Bob Blauch, Lebanon, and his big 10-point, below.



GREGORY BUTTORF, 12, of Woodward, with high-antlered trophy.





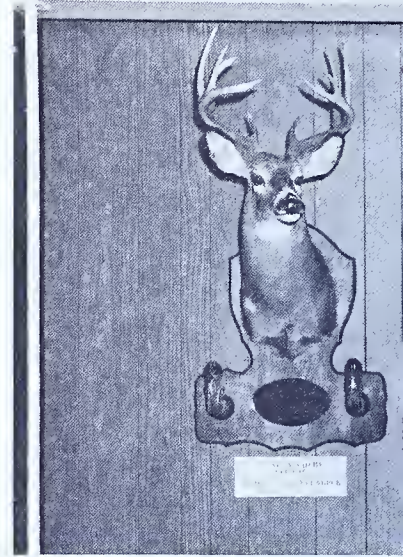
LEWIS HAJOS, above, receives award for top typical deer from Executive Director Glenn L. Bowers.



BOB HOLMES, above, receives award from Don Neal for service to "Kinzua Country." Donald Sorgen, below, who took biggest bear, admires certificate held by wife.



PENNSYLVAN



FOUR TOP TROPHIES OF PROGRESS. Left, Harvey Hollenbeck's top bo... typical whitetail, 175-1; bottom, D...

GAME COMMISSION'S 19

DEER AND BE

THE THIRD Pennsylvania...
tember 20 at Warren.
previous years, bear skulls
was part of the Pennsylvania
was attended by many spo
servation. Bronze medalli
awarded for the best deer
bear skull.

POWA PRESIDENT LOU STEVEN...
of awards.





Hajos' typical whitetail, score, 162-4;
 right, Vincent Busi's first-place non-
 number One bear, score, 21-12/16.



MR. AND MRS. HARVEY HOLLENBECK display
 certificate and medallion given for his fine white-
 tail trophy.

RECORDS AWARDS

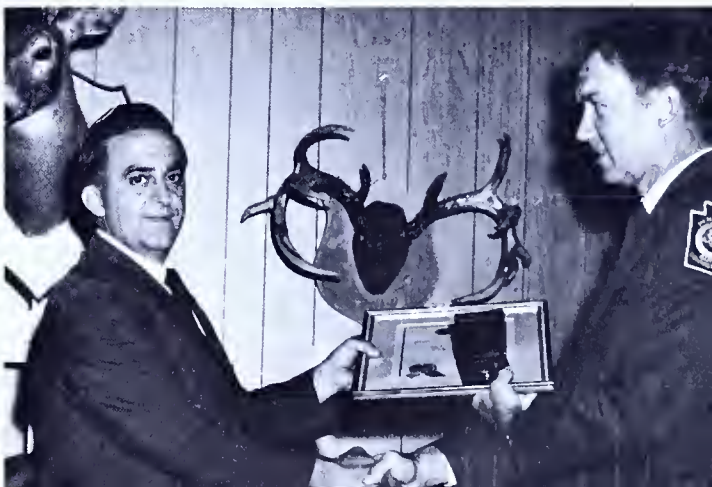
Awards Program was held Sep-
 the deer measuring as done in
 1969. The affair, which
 Writers Association's fall banquet,
 and persons interested in con-
 y created for the event, were
 categories and for the largest

PGC Photos by Ralph Cady



VINCENT BUSI, Homer City, Pa., accepts award
 for his non-typical trophy, which was taken in In-
 diana County in 1968.

banquet guests before announcement





CONSERVATION NEWS



Top Trophy Bear, Deer Recognized

TWO BLACK BEARS taken by hunters in Pennsylvania last year are among the finest trophies ever taken in North America. Skulls of the two bears measured well over 21 inches under the scoring system of the Boone and Crockett Club, which maintains records of the top wildlife trophies taken on the continent of North America.

A bruin taken in Clinton County in 1968 by Donald E. Sorgen of RD 1, Lock Haven, had a skull measurement of 21 12/16 inches. Another bear taken last year in Clearfield County by Galen Bortner of Lineboro, Md., measured 21 8/16 inches.

Few Larger Bears

In the last (1964) edition of *Records of North American Big Game*, compiled by the Records Committee of the Boone and Crockett Club, the Clinton County bruin taken by Sorgen would have ranked second only to a bear taken near Land O'Lakes, Wis., in 1953. The world record-holder measured 21 15/16, only 3/16 of an inch bigger than Sorgen's.

In the record book only seven bears listed for the continent are larger than Bortner's.

Of course, there have been a number of black bears taken and measured since 1964, and it is certain that some will fall into the 21-inch class or larger.

The new minimum black bear score for the Boone and Crockett Club record book is 21 inches. In 1964, the minimum score for the record book was 19 inches. At least eight bears taken in Pennsylvania since the beginning of the 1966 bruin season have measured 19 12/16 inches or larger.

Sorgen and three other hunters were honored on September 20 by the Pennsylvania Game Commission at its trophy deer and bear awards banquet, held in conjunction with the annual meeting of the Pennsylvania Outdoor Writers Association in Warren, Pa.

Other hunters honored were Lewis Hajos of RD 1, Jermyn; Vincent A. Busi, 113 Ridge Avenue, Homer City; and Harvey Hollenbeck, RD 2, Susquehanna. All received sculptured, engraved bronze medallions and certificates from Glenn L. Bowers, Pennsylvania Game Commission executive director, for having entered the top trophies in Pennsylvania's 1969 deer and bear measuring contest conducted by the Game Commission.

Hajos entered the largest typical white-tailed deer taken with gun, a buck taken in Lackawanna County in 1941. Its antlers scored 162 4/8. Busi's trophy was a non-typical whitetail taken with gun, a buck bagged last year in Indiana County. It scored 175 1/8.

Large Buck With Bow

Hollenbeck's award was for the largest white-tailed deer taken with bow and arrow, a buck taken last year in Susquehanna County having a rack scoring 137 2/8.

The Pennsylvania Outdoor Writers Association was instrumental in helping establish the trophy awards program in 1965. Several thousand deer antlers have been measured since the start of the records program, but this was the first year for the measurement of bear skulls.

It is expected that this measuring program will be continued at regular intervals in the future.

1969 DEER RECORDS PROGRAM

TYPICAL WHITE-TAILED DEER WITH GUN

Rank	Name	Address	County	Year of Kill	Score*
1	Hajos, Lewis	R. D. 1, Jermyn, Pa.	Lackawanna	1941	162-4
2	Donitzen, John M.	Box 2-2, Donegal, Pa.	Somerset	1950	162-2
3	Oldham, John	R. D. 2, Bedford, Pa.	Bedford	1968	162-0
4	Lumley, George W.	508 Jackson St., Jamestown, Pa.	Mercer	1967	161-3
5	Ferry, J. Elwood	New Enterprise, Pa.	Bedford	1940	160-0
6	Urbassik, Francis J.	Box 125, Salix, Pa.	Cambria	1968	159-6
7	Brown, Jack				
8	Owner—Thomas Brown	R. D. 1, Coopersburg, Pa.	McKean	1941	159-4
9	Kreuter, Richard	R. D. 1, Zanesville, Ohio	McKean	1964	158-7
9	Hirsch, William	4030 Plaza Dr., Erie, Pa.	Erie	1968	158-6
9	Wood, George	R. D. 1, White Haven, Pa.	Luzerne	1912	158-6
10	Sterling, Robert L.	R. D. 1, Pleasantville, Pa.	Venango	1945	157-2
11	Ardelt, Frank G.	R. D. 1, Darlington, Pa.	Beaver	1968	155-6
12	Hogan, Roy	R. D., Meadville, Pa.	Westmoreland	1957	155-5
13	Valentine, Barr C.				
14	Owner—Stephen Sorgcn	346 Spruce St., St. Marys, Pa.	Elk	1938	154-1
14	Lucas, George	1204 E. Ninth St., Erie, Pa.	McKean	1968	152-5
15	Wandel, John	1617 Webster Ave., Dunmore, Pa.	Wayne	1945	151-4
16	Brannan, William L.	R. D. 2, Lewistown, Pa.	Mifflin	1941	151-3
16	Fritts, Cecil G., Jr.	5448 Colony Dr., Bethlehem, Pa.	Susquehanna	1967	151-3
16	Creggs, Charles T.	R. D. 2, Stoneboro, Pa.	Venango	1968	151-3
17	Transue, Simon				
17	Owner—Paul Transue	Delaware Water Gap, Pa.	Monroe	1927	150-5
17	Vinea, David L.	Box 69, Lewis Run, Pa.	McKean	1967	150-5
18	Miller, Frank	R. D. 1, Norristown, Pa.	Chester	1967	150-2
19	Harmer, David L.	R. D. 2, Mars, Pa.	Armstrong	1968	149-4
19	Swavely, Reginald	1056 South St., Pottstown, Pa.	Leligh	1967	149-4
20	Warrieh, Robert J., Jr.	5 Woodside Dr., Washington, Pa.	Washington	1967	149-2
21	Shreve, Ben C.	Route 3, Union City, Pa.	Crawford	1968	148-5
22	Powers, Robert, Mrs.	R. D. 1, Kingsley, Pa.	Susquehanna	1967	148-4
23	Crawford, James				
23	Owner—L. Machmer	R. D. 2, Canton, Pa.	Bradford	1928	148-1
23	Simmis, Allen L.	R. D. 5, Cameron, W. Va.	Greene	1967	148-1
24	Cooper, Wendell				
24	Owner—Wade Cooper	R. D. 1, Slippery Rock, Pa.	Butler	1956	147-7

* Scoring by the Boone and Crockett method is done in one-eighth inch units, thus the score of the No. 1 head here, for instance, is 162-4/8.

Rank	Name	Address	County	Year of Kill	Score
24	Kline, Nelson	1101 Old Post Rd., Perkaspie, Pa.	Snyder	1968	147-7
25	Herbstreet, James	St. Marys, Pa.	Elk		147-5
26	Grace, Clifford	Hopewell, Pa.	Bedford	1942	147-4
27	Coldren, Gilbert	625 Waverly St., Shillington, Pa.	Lycoming	1927	147-3
28	Wieand, James B.	207 N. 6th St., Emmaus, Pa.	Columbia	1968	146-7
29	Hoover, Larry	6 Meade Pl., Titusville, Pa.	Venango	1959	146-3
30	Faust, Allen	Pine St., Auburn, Pa.	Berks	1968	146-0
31	Shoosmith, Leroy	Mountain Home, Pa.	Pike	1968	145-7
32	Heckman, Mark	Mine St., Stoneboro, Pa.	Mercer	1968	145-4
33	Willison, Owen	McConnelstown, Pa.	Huntingdon	1954	145-3
34	Owner—Don Gongloff	R. D. 1, Trout Run, Pa.	Lycoming	1954	145-2
35	Lockhuff, Richard				
35	Kaftan, Emil	7110 Ridge Rd., Parma, Ohio	Elk	1927	145-0
35	Owner—Geraldine Kaftan	R. D. 4, Centerville, Pa.	Crawford	1968	145-0
35	Strawbridge, William	S. Water St., Mill Hall, Pa.	Clinton	1967	145-0
36	Bitner, Robert C.	540 West Center, Donaldson, Pa.	Tioga	1940	144-4
36	Barry, Clyde	112 W. High St., Milford, Pa.	Clarton	1951	144-3
37	Master, Ronald	Pond Rd., W. Springfield, Pa.	Erie	1967	144-2
38	Shafer, Bernard	59 Harrison St., Greenville, Pa.	Crawford	1968	143-7
39	Hartley, Harold E.	R. D. 1, Somerset, Pa.	Somerset	1946	143-7
39	Lichty, Charles, Jr.	540 W. Center, Donaldson, Pa.	Schuykill	1968	143-3
40	Barry, Guy	R. D. 3, Bloomsburg, Pa.	Columbia	1940	143-1
41	Chyko, Joseph, Sr.	Main St., Liverpool, Pa.	Perry	1965	142-6
42	Deitzler, John	303 11th St., Windber, Pa.	Somerset	1967	142-6
42	Kaniuk, John				
42	Shetler, Frank				
43	Owner—Dio Shetler	R. D. 1, Turbotville, Pa.	Montour	1950	142-6
43	Mathieu, J. W.	R. D. 1, New Town, Pa.	Bucks	1967	142-5
43	Miller, John	Locust St., Beech Creek, Pa.	Clinton	1968	142-5
44	Jackson, Reid	R. D. 1, Centerville, Pa.	Crawford	1968	142-3
44	Zechman, Irvin W.	R. D. 3, Middleburg, Pa.	Snyder	1928	142-3
45	Hagerich, Lynn	264 Jesse Lane, Conemaugh, Pa.	Cambria	1967	142-0
45	Troup, B. F.				
46	Owner—Guy W. Troup	R. D. 3, Middleburg, Pa.	Snyder	1927	141-6
47	Wylie, Tom	Moscow, Pa.	Lackawanna	1967	141-5
48	Graham, Vaughn E.	R. D. 1, Tionesta, Pa.	Clarion	1968	141-4
48	Scott, Joseph R., Jr.	45 Worrell Dr., Springfield, Pa.	Union	1967	141-4
48	Woollett, John	64 Moon Run Rd., McKees Rocks, Pa.	Butler	1968	141-4
49	Bates, Mearle				
		R. D. 2, Jamestown, Pa.	Mercer	1952	141-1

Rank	Name	Address	County	Year of Kill	Score
49	Gustin, Grant	R. D. 2, Laceyville, Pa.	Clinton	1932	141-1
50	Haldeman, Robert	R. D. 1, Glenmore, Pa.	Chester	1967	141-0
51	Maneval, Milford	R. D. 3, Shickshinny, Pa.	Tioga	1948	140-7
52	Steel, Robert E.	1345 2nd St., New Brighton, Pa.	Beaver	1968	140-6
53	Weaver, David C.	216 Allegheny St., Hollidaysburg, Pa.	Blair	1968	140-5
54	Corley, Earl A.	Buffalo Mills, Pa.	Bedford	1942	140-2
55	Haas, Robert	1003 N. 7th St., Lebanon, Pa.	Lebanon	1956	140-0

NON-TYPICAL WHITE-TAILED DEER WITH GUN

1	Busi, Vincent A.	113 Ridge Ave., Homer City, Pa.	Indiana	1968	175-1
2	Brown, Lawrence	R. D. 2, Ulster, Pa.	Bradford	1942	163-2
3	Yoder, Herbert R.	R. D. 1, Temple, Pa.	Berks	1967	157-6
4	Slagle, Ira D.	439 College Ave., State College, Pa.	Centre	1927	152-3
5	Miller, Edward A.	R. D. 2, Valencia, Pa.	Butler	1968	143-6
6	Cronin, Jeffrey A.	1103 Nancy Dr., Croydon, Pa.	Monroe	1967	120-3

WHITE-TAILED DEER WITH BOW AND ARROW

1	Hollenbeck, Harvey	R. D. 2, Susquehanna, Pa.	Susquehanna	1968	137-2
2	Fitting, Donald W.	R. D. 1, Newhope, Pa.	Bucks	1967	132-4
3	Yannelli, Joseph	217 Beidler Rd., King of Prussia, Pa.	Chester	1967	126-5
4	Massa, Fred	1313½ Pennsylvania Ave., Warren, Pa.	Warren	1967	126-4
5	Munnion, John	914 E. Evergreen Rd., Lebanon, Pa.	Lebanon	1968	122-0

WHITE-TAILED DEER PICK-UP (TYPICAL AND NON-TYPICAL) CLASS

1	Hamill, Paul H.	R. D. 1, Ligonier, Pa.	Westmoreland	1947	149-7
2	Owner—Charles Hamill Pa. Game Commission	R. D. 2, Reading, Pa.	Berks	1968	141-3

BLACK BEAR WITH GUN

1	Sorgen, Donald E.	R. D. 1, Lock Haven, Pa.	Clinton	1968	21 12/16*
2	Bortner, Galen	Lineboro, Md.	Clearfield	1968	21 8/16
3	Rishel, Lee Owner—Pa. Cooperative Wildlife Research	Penn State University	Clinton	1967	20 13/16
4	Morgan, Paul R.	51 Hindman Ave., Burgettstown, Pa.	Potter	1967	20 7/16
5	Bare, John R.	R. D. 1, Mechanicsburg, Pa.	Warren	1955	20 6/16
6	Koleski, Richard A.	629 9th Ave., Bethlehem, Pa.	Carbon	1968	20 4/16

* Bear skulls are measured in 1/16-inch units.

Rank	Name	Address	County	Year of Kill	Score
7	Girel, Joseph	136 E. Fairview Ave., Pittsburgh, Pa.	Jefferson	1966	19 14/16
8	Rhodes, Bernell	R. D. 5, Hanover, Pa.	Lycoming	1967	19 13/16
9	Schall, Robert				
	Owner—Pa. Cooperative Wildlife Research				
10	Cyrus, Gary	Penn State University	Elk	1967	19 12/16
11	Geiman, Richard L.	Box 85, Bessemer, Pa.	Forest	1968	18 14/16
12	Leyh, Donald R.	R. D. 1, Thomasville, Pa.	Lycoming	1968	18 13/16
13	Carter, Harry R.	R. D. 2, Jeannette, Pa.	Tioga	1964	18 9/16
13	Reinhard, Terry E.	Moscow, Pa.	Lackawanna	1968	18 6/16
14	Smith, Robert R.	2297 Locust Lane, York, Pa.	Lycoming	1966	18 6/16
15	Manone, Louis	R. D. 3, Linesville, Pa.	Forest	1968	18 1/16
16	Reeder, Sam	Box 386, Imperial, Pa.	McKean	1968	17 10/16
	Owner—Levi Whippo				
17	Escherich, David L.	R. D. 1, Trout Run, Pa.	Lycoming	1963	17 3/16
18	Newman, Lowell C.	245 Franklin St., Hooversville, Pa.	Clearfield	1967	16 10/16
19	Isgar, John M.	Farmington, Pa.	Cameron	1968	16 8/16
20	Price, James	45 Clark Ave., Carbondale, Pa.	Pike	1968	15 15/16
21	Spahr, Bob	Tannersville, Pa.	Monroe	1965	15 7/16
22	Bush, D. M.	R. D. 1, Seneca, Pa.	Centre	1954	15 3/16
	Owner—J. H. Doebling				
		1420 Mifflin St., Huntingdon, Pa.	Monroe	1968	13 14/16

BLACK BEAR PICK-UP

1	Mr. Christovic				
1	Owner—Paul Miller	Bellwood, Pa.	Blair	1967	20 8/16
2	Pa. Game Commission	Harrisburg, Pa.	Westmoreland	1964	20 8/16
	Gatesman, Alan J.				
	(skull cracked)				
3	Wood, Ward	Lucinda, Pa.	Clarion	1968	20 7/16
	Owner—Pa. Game Commission				
3	Whippo, Levi	Port Allegheny, Pa.	McKean	1966	20 1/16
4	Spahr, Bob	Star Route, Trout Run, Pa.	Lycoming	1953	20 1/16
5	Pa. Game Commission	R. D., Seneca, Pa.	Clinton	1955	19 12/16
5	Donahoe, Richard	Franklin, Pa.	Jefferson	1965	19 8/16
6	Keiper, Charles	R. D. 2, Danville, Pa.	Bradford	1964	19 8/16
6	Burns, Jim	1612 Erie Ave., Renovo, Pa.	Clinton	1954	19
7	Dale, Kermit	Central City, Pa.	Somerset	1963	19
8	Meyer, Russell	139 W. Market St., Middleburg, Pa.	Bradford	1962	18 4/16
9	Pa. Game Commission	Box 506, Fairview, Pa.	Blair	1961	17 3/16
		Franklin, Pa.	Erie	1967	16 6/16



FIELD NOTES



Unruffled Female

BERKS COUNTY—While checking for late hunting after the first day of archery season, a deputy and I noticed a van parked along the woods well after the closing hour. Suspecting a violation, we parked our car and walked back. We heard someone yelling up on the mountain, and before long a young man came out of the woods. He said that his mother was lost and that his father had gone back up to look for her. The three of us spread out along the road and started yelling to keep the father from becoming lost also. It wasn't long before the man came back with his wife. The woman had spent over an hour alone, after dark, in some pretty rough country. She said that when she realized she was lost, she sat down, intending to stay the night if need be. I feel that this fine example of calm thinking could prevent many similar situations from becoming a tragedy. — District Game Protector J. K. Weaver, Kutztown.

Carelessness=Costs

FOREST COUNTY—Question: How do you educate people to the law when they don't or won't read? I have been asking people picked up for violations of the Game Law if they read the Hunting Digest issued with their hunting license. I would venture a conservative guess that 70 percent look at it only to see when the different seasons start. Also, it seems funny but the ones that say they did read it "just happened to miss" that one line that pertains to the violation they were picked up for.—District Game Protector C. E. Toombs, Jr., Tionesta.

Still There

MONTGOMERY COUNTY—In riding around the back roads, day after day, on patrol in the deer season, I observed large flocks of pheasants feeding in the fields. Many were roosters. One could hardly feel that the small game season had just ended. It proved one thing again—the pheasants that live and survive in a fairly populated area certainly learn how to stay alive and escape from the heavy hunting pressure in counties such as this.—District Game Protector W. E. Shaver, Harleysville.

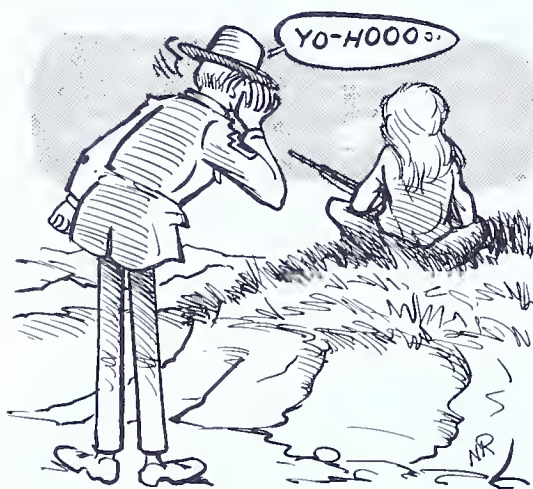


Busy Place

ERIE AND CRAWFORD COUNTIES—While on patrol the other night, we pulled into a man's driveway to turn around. As the lights shined over the yard we saw two coons on one side of a pond, a red fox on the other side, and three ducks swimming on the pond. Maybe the fox was trying to outsmart the coons for a midnight snack, but they had him outnumbered.—Land Manager J. C. Hyde, Townville.

What's in a Name?

SNYDER COUNTY—While on patrol late one night, a set of eyes came into view in the headlights of my car. As I drove closer, I could see that the eyes belonged to a fair-sized (about 200 lbs.) black bear that had just finished raiding a trash can in one of the local state parks. The name of the park fit the occasion for it was "Bear Gap State Park."—District Game Protector J. P. Shook, McClure.



What's Next?

BLAIR COUNTY—As I was driving on a back country road one afternoon recently, I saw what appeared to be a woman hunting woodchucks. She was sitting in a field a short distance from the road with her back toward me. Her hair was neatly combed and reached below her shoulders. A rifle lay across her lap, but she did not have a hunting license visible. I stopped my car and walked out to her. As I approached, the hunter did not turn, so I said, "Excuse me, ma'am, I'd like to see your license." The hunter turned around and growled, "I ain't no woman!" It took me a little while to recover, because along with the long hair he had a mustache and beard. It was a little hard to advise a man to display his hunting license while laughing at him—but I managed.—District Game Protector J. A. Lukas, Hollidaysburg.

Efficient Bowmen

HUNTINGDON COUNTY — The proficient handling of quality archery equipment and thorough working knowledge of hunting is shown by the following. On September 27, a properly rostered party of 24 archers participated in six semi-silent deer drives. End results of the hunt were five deer hit, five deer tagged. No injured and unrecovered deer were left in the woods. Of the five deer hit, four were one-shot kills; one of the five required a second shot. Of the four one-shot kills, in each instance the arrow passed completely through the body cavity of the animal. Two of the one-shot kills were made on "full flight" animals in wooded areas. Several arrows were released which did not connect but most important, there were no cripples.—District Game Protector R. D. Furr, Huntingdon.

Cold Weather Coming

BRADFORD COUNTY—Old farmers say that when caterpillars have wide bands and squirrels hide the acorns in the high crotches of the trees, we are sure of a hard winter. Deputy Charlie Fox observed a woodchuck on the first day of the bow season with an ear of corn in his mouth. The woodchuck spotted Charlie and ran into his hole, the ear of corn still in his mouth. Charlie ordered a new pair of long johns and advised me to do the same.—District Game Protector W. A. Bower, Troy.

Visitors

MIFFLIN COUNTY—Opening day of archery season showed a good representation of nonresident bow hunters in our county. Hunters from Ohio, New Jersey, Texas, and Michigan were checked. When questioned relative to the hunting conditions in their state, they had only praise for Pennsylvania hunting.—District Game Protector J. D. Moyle, McVeytown.

Above and Beyond

MERCER COUNTY—A Greenville hunter no doubt has a field champion in its own class, but I doubt if it will ever win a ribbon. One cold November morning this hunter and his beagle were crossing a field when the dog stopped at a patch of thick grass and wouldn't leave. When the hunter investigated he found a half-frozen young lady dressed in just a negligee. Realizing that she was still alive, he picked her up and was carrying her to the road when a police cruiser came along; they had been looking for her, as she had run away from home at 3 a.m. I'm not revealing the name of the hunter in hopes of avoiding a possible rush by bachelors wanting to buy that hound dog.—District Game Protector J. A. Badger, Mercer.

Something New

CLARION COUNTY—Upon receiving a call from the Northwest Division office that a bear had been hit by an auto, I went to the area to find a State Trooper standing by. The first words uttered by him were, "Boy, I've had a lot of different jobs since I've been with the State Police, but this is the first time I had to baby-sit for a bear."—District Game Protector A. Pedder, Clarion.

Thanks

CLARION COUNTY—Every high school in my district has cooperated in our Hunter Safety program. Even some of the elementary schools participated. This kind of cooperation helps make my job more pleasant and efficient. This is a good program and it will help the students prevent hunting accidents and injuries to themselves as well as making the outdoors a safer place for everyone. A sincere "thank you" to all schools in Western Clarion County.—District Game Protector L. L. Harshbarger, Knox.



Better Safe . . .

CRAWFORD COUNTY—Fred Bertram of New Richmond told me of a man in his neighborhood who gathered a large supply of mushrooms. He took them home to his elated wife, who promptly prepared a delicious meal of steak and mushrooms. They ate their fill and fed some of same to their large pet dog. After the dishes were done, they went off to visit some neighbors. Upon returning home they found their dog stretched out in the driveway, dead as a rock. A frenzied call was made to Meadville and a mad dash to the hospital where the man and his wife had their stomachs pumped out. When they reached home they discovered that the dog had gone out on the highway and been killed by a car and that a neighbor had placed the dog in their driveway so they could find it.—District Game Protector W. E. Lee, Titusville.

That'll Hold You!

LYCOMING COUNTY—One day while working on reports in my office my four-year-old daughter asked, "Daddy, where do mooses, deers and bears come from?" Being engrossed in my reports I mumbled, "I don't know." She said, "Well, you're the dumbest Game Warden I ever saw!"—District Game Protector D. A. Bernhardt, Jersey Shore.



Shoulda Stayed in Texas

CUMBERLAND COUNTY—I believe this district can now lay claim to having the most unusual wild animal ever killed on a Pennsylvania highway. On September 6, Gary Lautsbaugh of Shippensburg found a highway-killed armadillo on a secondary road near Big Pond.—District Game Protector D. Smith, Shippensburg.

How's That Again?

LACKAWANNA COUNTY—During a visit to the radio maintenance shop in Scranton recently, several technicians and I were standing at my Game Commission vehicle while adjustments were being made. A middle-aged woman walked up and joined the group. After listening to our conversation for a few moments, she asked, "What color species of canary sings the best?" Needless to say, this brought abrupt silence. After several long moments of our dumfounded staring, she walked away, leaving us in a rather perplexed state of mind that continued for some time.—District Game Protector T. C. Wylie, Moscow.

Popular Place

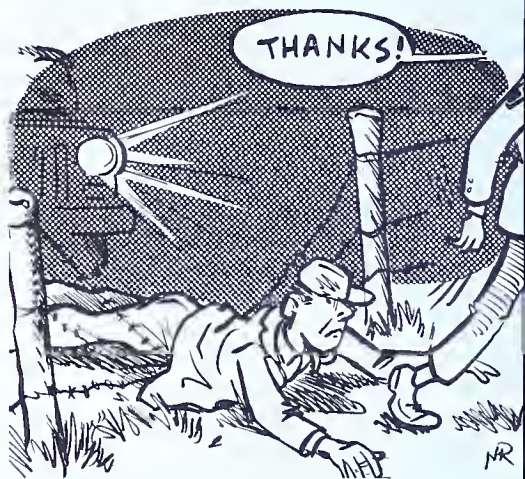
JEFFERSON COUNTY—On opening day of archery season, two-thirds of the hunters in my district were from out of state.—District Game Protector G. W. Miller, Sigel.

Straight Shooters

CARBON COUNTY—It looks like the archery hunters had a very good opening day in my district this year. I heard of at least ten deer being taken on the first day.—District Game Protector C. E. Burkholder, Elysburg.

Go Get 'Em, All!

LYCOMING COUNTY—Some deputies show a special devotion to duty or so it seemed to me one night during the early part of archery season. Deputy Al Barton and I were patrolling just after dark when we observed a vehicle coming out of a pasture. Upon reaching the gate where he would come out, the driver turned off his lights. All we could think of was that he had illegal game and was getting rid of it. Deputy Barton and I immediately jumped out of the car and



started for the lane. Sensing barbed wire was across the entrance, stopped, but Deputy Barton went sailing into it as though he were throwing himself onto the fence so that I could cross on his back. I thanked Deputy Barton for his graceful Army tactics but all I could hear was mumbling P.S. The violator turned out to be a farmer hauling out a load of wood.—District Game Protector R. G. Clouser, Williamsport.



Just Logic, That's All

BRADFORD COUNTY — It's wonderful what faith some sportsmen have in the veracity of the printed word—as evidenced by the bow hunter standing by the highway “deer crossing” sign, waiting patiently for his deer to come along.—District Game Protector A. D. Rockwell, Sayre.

We're With 'Em

VENANGO COUNTY—Upon investigation of an alleged Game Law violation, a young man and woman came forward to offer information. After discussing the incident and further investigating, the young lady very sincerely said, “Please help us protect our deer, our bunnies and our pheasants.” She then added, “It's so reassuring to know that someone out there cares besides us.”—District Game Protector L. C. Yahner, Franklin.

Fearless Female

SNYDER COUNTY — Burning fencerows destroys not only wildlife cover, but nesting wildlife as well. While on patrol, Deputy Fisher and I observed one persistent pheasant hen still on her nest despite the fact that the area around her was burned over. If she is successful in hatching the eggs, there will probably be some “hard boiled” chicks in that area.—District Game Protector K. W. Dale, Middleburg.

Tarred Feathers?

FRANKLIN COUNTY—Ray Schellhase, Fayetteville rural mail carrier, had a very interesting experience this summer. While on his route he observed a turkey hen by the side of the road. Wondering why the hen did not run away, he began to look around. He found four young turkey poults stuck in the fresh tar which had run down the water gutter. While Ray was trying to free the poults, the old hen ran him back into his car three times. After a while she seemed to get the idea he was trying to help her young brood, and not injure them. Ray managed to get the poults out, exhausted but alive.—District Game Protector J. D. Mort, Chambersburg.

Radios Speed Assistance

LEBANON COUNTY — Deputy Game Protectors' two-way radios have an important role to play in law enforcement and the protection of wildlife. Another important role was played on September 27 when Deputy Beam, while working on jacklighters near the Indiantown Gap Military Reservation, heard a crash. He investigated and found an overturned car next to a bridge in a shallow stream. He checked the occupants and then radioed for help. Another deputy from Dauphin County took the call and reported it to the hospital dispensary. They in turn dispatched an ambulance. All of this took place within a few minutes. Does the radio play an important role? I would say it does.—District Game Protector D. A. Hilbert, Cleona.

Mistaken Identity

BUTLER COUNTY—I received a call from a lady who complained that quail were in such large numbers around her property that they were becoming destructive. I had to see this. I got my bird dog and went to her home. She pointed out the “quail” to me. They were pigeons.—District Game Protector Jay Swigart, Butler.





By NED SMITH

December in Pennsylvania . . . deer in the hardwoods . . . and foxes and foxholes, to say nothing of underground red squirrels and a gray that didn't know which way to turn his head . . .

DECEMBER is more than the end of the calendar year; in many ways it is the end of nature's year as well. The green is gone from the fields, and only weathered remnants of autumn's recent splendor remain. The last migrants have drifted southward, and the hibernators are deep in winter's sleep. Everything is on the wane—the seeds and nuts and mast that sustain life, the leafy cover that conceals the defenseless, the very birds and animals themselves. Compared with the abundance of warmer months the year is truly ending.

But we know that winter's dormancy is a temporary thing. Beneath its inert exterior life goes on—resting, rebuilding, conserving its vigor and compounding its potential—until in the warming days of spring nature's year is reborn.

The efforts of man are less enduring, however, and some are pitifully so. When I began this series of articles called "Gone for the Day" I knew it could not go on forever, and the time has come, I feel, for a change. What better time to terminate these accounts of my everyday outdoor experiences than at that very time when nature is laying aside her creative tools and taking a breather. Perhaps by emulating a more lasting force I shall be

inspired to bigger and better things come spring. And so, with thanks for your interest, I offer one more "Gone for the Day" and take a breather myself.

December 1—What a way to start the deer season! For nearly twenty opening days I have walked unerringly through nearly a half-mile of woods in the predawn darkness to reach my stand. This morning, with drizzling rain and pea-soup fog blotting out every feature, I simply couldn't find the little rocky seat I had prepared for this morning's watch. Sweating beneath the rain gear, I finally gave up the search and returned to the easily discernible edge of the scrub oak. Here I quickly found my second-choice spot and settled down to await starting time.

Nothing else went right today, either. Just before the opening hour I heard a hunter moving in below me. A little later the crunch of footsteps and the occasional flicker of a flashlight marked the route of another intruder into "my" domain.

A few deer passed like specters in the fog, but more could be heard farther down the mountain—close to where I should have been. When I decided to move down there in mid-

morning I found another hunter crouching only twenty feet from my now plainly visible seat, so I continued on down the mountain and slipped into a nice nest among some fallen logs where I could watch a draw and a flat below me.

Before my seat was warm a rifle roared in the direction of my intended stand, and a little later the hunter appeared dragging a small buck.



Ten minutes later another hunter came along and climbed a pitch pine a short distance away, from where he could spot any deer in the area long before I could. I considered moving, but decided to stick it out for a while.

About noontime a flicker of movement below me materialized into a red fox running nimbly over the rocks in my direction. He had obviously been pushed out by a hunter. At first I thought he was going to run right over me, but at the last minute he picked a different route over the rocks. Although he passed by within twelve feet of where I was hunkered down between the logs he never noticed me. The hunter in the tree muttered something inaudible, but didn't shoot.

After an hour or so he grew tired of his tree stand and I had the place to myself for the rest of the day. It proved to be a popular spot for does and fawns — some moving through,

others contentedly browsing. But nothing with antlers happened my way and the opening day drew to a bloodless close.

December 2—Went back to the same area today. The other hunters who had descended upon the place yesterday were absent. Instead of staying put I eased about from place to place most of the day. With a raw, gusty wind to cover the sound I managed to look over plenty of deer, but except for a spike buck I saw no antlers.

December 3—Jim and Mark joined me today. The mountaintop walk back to the Game Lands road was a cold one and Jim found numerous occasions to mention the big Thermos of hot chocolate which he and Mark planned to break out at noon. He also apologized for not having enough to share with me. The situation was equalized some time later, however, when the zippered-on game bag in which Mark toted the Thermos suddenly unzipped, dropping their treasure to the frozen ground with a resounding *pow*.

All morning a raw wind blustered out of the north, and I was glad for the shelter of my "foxhole" on the south side of a little rocky outcropping. There was no lack of deer traffic. Every twenty minutes or so a small bunch of does and fawns would pass by. A few had obviously been disturbed by hunters, but most were feeding and spent as much as a half-hour browsing on maple sprouts or nuzzling through the leaves for fallen acorns. One spike buck, accompanied by a doe, hurried by, then returned a few minutes later. Just before noon they came down the mountain once more, and I marveled that no one had taken a shot at him.

About noontime Jim stopped by on his way to the big hollow and I told him about the little buck. "I'm not as choosy as you," he said, as he started off. "If he comes back again send him over my way."

Within a half-hour the spike did

come back, headed in Jim's direction. It looked hopeful, but the doe, who was in the lead, suddenly saw something she didn't like. Wheeling, she came bounding back by my stand. The buck turned, too, then stopped, bewildered by the abrupt change of plans.

He stood broadside about thirty yards away and just for the heck of it I put the cross hairs behind the shoulder. He just stood there. Temptation finally crooked my trigger finger, and the first spike buck of my career bit the dust.

December 6—There are many ways to cook a grouse, but one of my favorites is the simplest of all. Before supper-time I split a pair of young grouse down the back with poultry shears, removing the necks in the process, opened the carcasses, and crushed them down flat with the heel of my hand. Then they were placed breast down on a rack and broiled, basted frequently with lots of butter. When as brown as they could be without burning, they were turned and the process repeated on the other side. That's all there is to it.

This method pleases those who say grouse are too dry; when sliced the meat is found to be saturated with natural juices. Those who complain that fancy recipes disguise the natural flavor will find that butter is the only seasoning needed, unless they like their meat extra salty. Choose birds of the year and you'll be assured of tender meat.

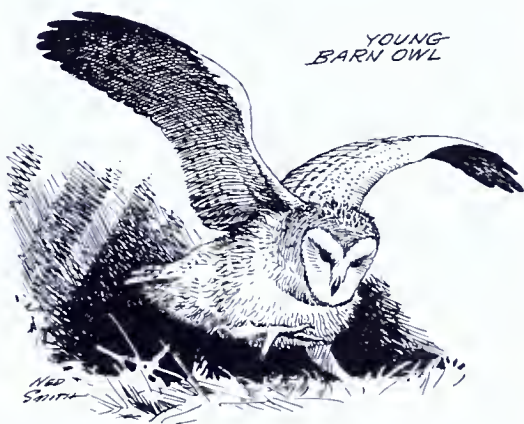
December 14—Burying a nut a couple of inches deep is about as far below the ground as a gray squirrel ever ventures. The red squirrel, however, is quite at home underground. A pine woods I know is riddled with the burrows of these energetic little animals, especially at the base of several large white pines. Apparently most of these lead to food caches, for the piles of dissected pine cones already reach a height of a foot or more beneath the

most popular feeding perches.

One red squirrel I surprised in the middle of a meal sputtered and jerked in the usual fashion, then dropped to the ground and ducked into a burrow beneath a nearby root—a form of refuge rarely utilized by a gray squirrel except when wounded.

December 19—In response to a request that he remove some owls from a barn, our local Game Protector and a deputy drove to a farm near Elizabethville last evening. Knowing I'd like some pictures, they invited me to accompany them.

The hissing and rasping sounds that emanated from the barn clearly indicated that the occupants were, naturally enough, barn owls, and we soon located them high in a mow filled with bales of hay. The only adult we spotted soon fled through an opening beneath the gable. The others proved to be young birds—full grown but unable as yet to fly. (Barn owls nest at almost any time of the year.)



The farmer's complaints were justified, for the mow was an unsightly mess of pellets and whitewash. However, when Steve explained that the young birds couldn't fend for themselves if evicted but would be leaving as soon as they could fly the farmer quickly agreed to put up with them until they left of their own volition.

He was surprised to learn that the pellets were not dung, and that they contained the remains of nothing but meadow mice — the farmer's arch enemy.

Before leaving we attempted to get a few pictures, but in the cramped quarters beneath the roof the birds



had the advantage. Lying on our bellies and pushing cameras and flashlights before us we inched over the pellets and whitewash, only to have our intended models lope out of sight behind nearby bales. When cornered they invariably hung their heads and wagged them from side to side as though saying no to our pleas for cooperation. One got tired of the annoyance and retreated to another mow by walking across a long conveyor

that spanned the timbers high above the barn floor. One by one each model eventually found a cranny in which to hide, and we gave up with little show for our efforts.

December 22—While walking down the sawmill I heard several gray squirrels running over the leaves, and almost immediately one ran up the trunk of a tree carrying a large ear of corn. I stopped, and he settled down in the first crotch to shell his prize. Had I remained quiet he doubtless would have finished his meal, but I wanted to see what he would do with the corn if frightened. At my first step he grabbed the ear amidships and scrambling farther up the tree, he tried to duck into a hole. Naturally with half an ear of corn protruding from each side of his face he could not make it, in spite of the most strenuous pushing and wriggling.

At this moment another squirrel appeared and tried to enter the same hole. She finally pushed the ear aside and disappeared inside. The first squirrel, in a terrible panic by this time, scurried still higher, where he hung head downward and watched me. His jaws apparently tired, for he switched the ear of corn to his forepaws, then back to his mouth. For a minute more he hung on grimly, then the strain became too great, and the great yellow ear dropped to the ground below. Only then did he whip into the hole.

Think Orange

Safety experts readily agree on one subject—it's advisable to wear fluorescent orange while hunting. Statistics from all states and provinces show that wearing of safety-colored clothing results in reduction of accidents. It is every hunter's responsibility to see and be seen. Set an example for your fellow sportsmen by wearing fluorescent orange when afield. It is the easiest color seen under poor light conditions.

Watching the World's Best

By Keith C. Schuyler

Photos From the Author



ALTHOUGH the 25th World Archery Tournament has dissolved into international history, scores of the events which emerged from Valley Forge in August will long continue to make conversation wherever archers assemble. No one who attended the shoot, particularly the last day when final scores were posted, could fail to be impressed by the event.

Not only was it target archery at its finest, but the big one also brought together some of the finest people in the sport. They left no doubt in anyone's mind that they were champions, all of them, and it took the last minutes of the tournament to decide the winner.

Once again, the United States dominated the men's division as Hardy Ward of Texas and Pennsylvania's Johnny Williams fought it out for first place. The American women had a much rougher time of it. Records were shattered left and right, and the competition was the toughest of any international tournament to date.

For example, the first nine men broke the all-time double FITA score established by Charles T. Sandlin,

U. S. A., back in 1963, and the tenth man came within two points of tying Sandlin's 2332.

The first twelve women exceeded American Vici Cook's all-time record of 2253 established in 1963. Three Americans were among the first ten, and they claimed the team championship in the men's division. Doreen Wilber of Iowa, who came in second in the women's division, gave the United States a female medal representation. Next closest was Clela Wanamaker who placed sixteenth in the field of 40 ladies.

After Ray Rogers' seventh place, Stephen Lieberman placed a respectable twenty-second for the United States in a field of 113 men.

Russia posted a warning in that country's first participation in the World event by claiming a third and a seventh in the women's division and sixth in the men's group.

It was a bad four days for the defending champions in both male and female divisions as they had to settle for less than the top spot. Poland's Maria Maczynska, 1967 champ, managed sixth among the women. Ray

Rogers, who dominated the 1967 bi-annual event, registered seventh among the men.

These were the general standings, but the big stories did not necessarily show up on the scores at the end. Going into the last day, it was Doreen Wilber who was leading Canada's Dorothy Lidstone by one point. The impish Canadian finally stitched her way ahead to win the tournament 10 points in the lead, although each had the same number of hits, 287. Nonna Kozina, a stocky Russian girl, actually had one more hit in amassing her third place total of 2328, 23 points behind Wilber. There was a spread of 77 points between the tenth and the first place in the ladies' division.

With 72 arrows to go on the last day, 19-year-old Texas sharpshooter Hardy Ward was being hard pressed with only a six-point lead over Pennsylvania's 15-year-old Johnny Williams. By noon, it looked like no contest as Hardy pushed out in front by a comfortable 22 points. Then the

JOHN WILLIAMS, 15-year-old Pennsylvanian, challenged for the gold medal right down to the final arrow, had to settle for silver.



Keystone kid put on the pressure and began to chop at Hardy's lead. With only a few targets remaining, Johnny tied, then passed, Ward to step out in front by three points. Again they tied, then Johnny slipped behind by three. He had a chance to save it on the last target, when the Texas targeteer let one slip into the seven ring, but Johnny also let one get away for an identical score on the last end of three arrows.

Most Brilliant Display

It was the most brilliant display of shooting that has ever been seen at any tournament. Each of these young fellows was an interesting study as he concentrated on filling the gold with arrows. In a personal interview, Hardy revealed one of the reasons that he nearly lost the tournament on the last day. I asked what happened when his lead started to slip. He said that he had been cautioned on taking too long to shoot and it unnerved him a bit. He began to shoot through his clicker, the device that lets a target archer know when he is at full draw, in fear that he would violate the two and one-half minute rule for the release of three arrows. It was announced prior to the tournament that the time limit would be rigidly enforced. In prior tournaments the rule had been winked at by officials and some shooters had been taking advantage of this laxity. There were some mild complaints among shooters to whom I talked after the tournament that there was not complete consistency in enforcing this rule.

The amazing concentration of young John Williams provided a story in itself. I asked Johnny what he thought about between ends. His answer was, "The next arrow."

The big one brought out spectators from all over the United States. On the last day an estimated 3000 viewed the final hours, and this is believed to have been the largest group of spectators to watch an archery match in modern history. This is not to be com-

pared to the Forksville Festival where there are over 3000 people present but more than 2000 of them are participants. However, Forksville provides an informal type of shooting.

Among the top names in archery attracted to the World event at Valley Forge was Fred Bear, a name and face familiar to all archers, especially bow hunters; Earl Hoyt, inventor of the stabilizer for bows which was evident on practically every piece of equipment used at the tournament; and Douglas Easton, California manufacturer who has made his name synonymous with aluminum arrows all over the world. Although press coverage was generally good, the big shoot at one of our most sacred national shrines pinpointed two problems that are holding back archery as a spectator sport. At the long distances (up to 90 meters), it was impossible to see the arrows hit without good binoculars or a spotting scope. Scores were not available for some minutes after they were made despite an excellent job of score keeping by volunteers who came from all over the country. Also, there are so many different rounds shot in archery that it is difficult for archers to keep abreast of them and impossible for the average spectator who has not made a study of archery.

Photogs a Problem

Although the crowd was generally most respectful of those on the shooting line, some of the press members were not. I personally avoided taking any pictures within earshot of an archer through use of a telephoto lens when he or she was on the shooting line. Few press people are enough acquainted with archery to realize that the click of a camera shutter approximates the sound of a clicker and can cause an archer to make a bad release. I asked Hardy Ward if photographers bothered him while he was shooting, and he said the click of the shutter was annoying at times.

The generally excellent cooperation



HARDY WARD, 19-year-old Texas sharpshooter, smiles proudly after examining his final target—as well he might, for it made him the world's top archer.

from all was best exemplified during the last minutes of the tournament when the target was set at only 30 meters and arrows were being pulled and scored after each end of three shots. At this distance, the crowd could see every arrow strike. It was possible to follow the exact score with the naked eye. Everybody complied with a request from the grandstand to withhold applause until each end was finished so that the archers would not be disturbed by the well-intentioned acclamation.

Most impressive of the entire event was the parade of nations prior to the awards presentation. It was an extremely calloused person who did not choke up at this display of sportsmen from 27 nations gathered together in peaceful pursuit. During the period, the shooting grounds were international territory and the FITA flag flew over the row of individual state flags. Each of the 27 nations was identified by a card as all participants marched behind the Archbishop Wood High School Band of Warminster, Pa., led by Joseph Ciccimaro.

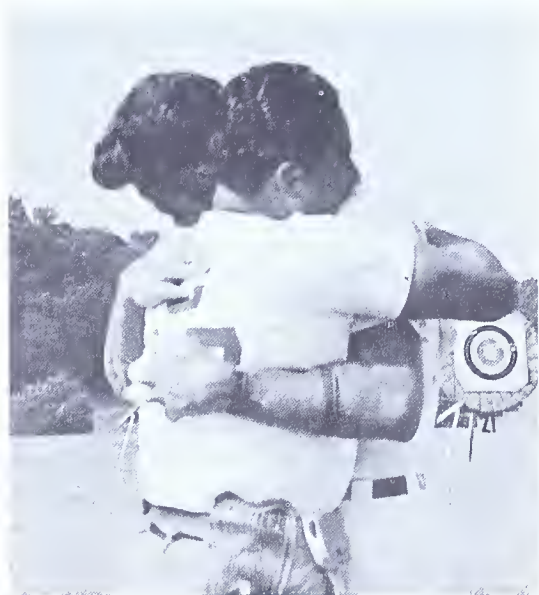
Although singling out individuals

for credit would be too hazardous, certainly a major share of the credit for this tournament must go to Clayton B. Shenk, who is a member of the board of governors of Federation Internationale de Tir a l'Arc, as well as executive secretary of the Pennsylvania State Archery Association and executive secretary and treasurer of the National Archery Association.

Top credit goes to each of the participants. All had to qualify in his or her country of origin to be permitted a place on the shooting line in the World Tournament. First interest naturally focuses on archers from the United States and especially those from Pennsylvania. Clela Wanamaker, Minnesota, had the top score in the tryouts, but she had to settle for sixteenth in the field of 40 women. Cynthia Slade, 18-year-old Mississippi miss, was thirty-first. Doreen Wilber was, of course, second, and Ardelle Mills, Minnesota, claimed twentieth spot.

The big surprise of the women's division was a third place by Nonna Kozina, of Russia. One of the most popular girls among the participants

WARD'S PHENOMENAL display of precision with the bow brought this congratulatory embrace from a member of the Mexican archery team.



as well as the spectators was Mayumi Tani, of Japan, who took fifth in the field. Maria Maczynska, who established the world record for the 70-meter distance in 1967 for Poland, saw 10 shooters, including herself, beat her double FITA of 531 at that distance. Four shooters topped the 1965 single FITA at 70 meters established by Marie Lindholm, of Finland, in 1965, at 284. And so it went with many of the former records.

Team Scores

In the team scores, Russia set a new ladies' record of 6887. Canada was second, followed by Poland. The U. S. A. ladies' team built up a total of 6725, to beat the old record of 6686, and still had to settle for fourth place.

Hardy Ward's double FITA at 2423 topped Charles T. Sandlin's 1963 record by 91 points, a phenomenal performance. However, Pennsylvania's John Williams was only three points behind, and Ray Rogers, in seventh position, bested the all-time record by 19 points at 2351. In winning, Hardy set a new double FITA record of 536 for the 90-meter distance. John Williams wiped out Ray Rogers' 1967 record of 586 at 70 meters with a 620. Graeme Telford, Australia, claimed a new double 50-meter record at 615, taking the 1963 title away from Jacques Becken, France, who had tallied a 598. Records at 30 meters remained intact.

In winning the team shoot, the combination of Ward, Williams and Rogers completely shattered the 1963 record established by the Americans, Sandlin, Thorton and Keaggy. The new record is 7194 compared to the old one of 6887. Denmark and Great Britain, in that order, each bested the old team record with scores of 6953 and 6898 respectively.

The weatherman was with these shooters most of the way, as rain frequently threatened but provided no serious problems. Hot weather was somewhat of a deterrent to those who



PGC Photo by Lowell Bittner

MEMBERS OF AMERICAN men's and women's teams, from left, Mrs. Ardelle Mills, Mrs. Doreen Wilber, Miss Cynthia Slade, Mrs. Clela Wanamaker. Back row, Steve Lieberman, John Williams, Ray Rogers, and Hardy Ward.

came from more temperate climates. Nevertheless, the U. S. A.'s first opportunity in 25 contests to host a tournament was a challenge that was neatly and efficiently met. It was a privilege just to watch.

Here are the highlights in scoring:

Ladies: Dorothy Lidstone, Canada, gold medal. Set new world record at 50 meters for double FITA of 578; new total double FITA Round record of 2361.

Doreen Wilber, Iowa, U. S. A., silver medal. Set new single FITA record at 70 meters of 292; new double FITA record at 60 meters of 590.

Nonna Kozina, Russia, bronze medal. Set new double FITA record at 70 meters of 567.

Men: Hardy Ward, Texas, gold medal. Set new double FITA record at 90 meters of 536; new record for double FITA Round at 2423.

John Williams, Pennsylvania, silver medal. Set new double FITA record at 70 meters of 620. (Had previously broken Ray Rogers' single FITA of 1230 with a 1242 at tryouts for World Tournament and the single FITA 70-

meter record of 310 established by Matti Haikonen, Finland, in 1966, with a 320.)

Ray Rogers had previously broken his own record for the 90-meter single set in 1967 at 287 with a new top of 294.

Graeme Telford, Australia, bronze medal. Set new double FITA record at 50 meters with a 615.

Team Scores: Ladies: First place, Russia: Nonna Kozina, Emma Gaptchenko, Tatiana Ovraztsova. Total 6887, a new record.

Second, Canada, total 6779; third, Poland, 6756; fourth, U. S. A., Doreen Wilber, Clela Wanamaker, Ardelle Mills, 6725; fifth, Great Britain, 6637.

Men: First, U. S. A.: Hardy Ward, John Williams, Ray Rogers, 7194, a new record.

Second, Denmark, 6953; third, Great Britain, 6898; fourth, Finland, 6864; fifth, West Germany, 6793. (Each of the first three teams beat the 1963 record set by Sandlin, Thornton and Keaggy, of 6887 for the U. S. A.)

Next tournament, the 26th, York, England, 1971.



Gift Ideas for Campers

By
Les Rountree

THERMOS BOTTLES are a necessity for campers, in Rountree's opinion. He prefers the stainless steel type and advises buying them in matched pairs.

IN CASE YOU hadn't noticed, it's time to make out a Christmas list. Writing up a goodie list is fun at any time, but especially so around this time of year. You just might be able to give someone an idea. I'm really looking forward to writing this column because I have a special purpose in mind. It is written that it is more blessed to give than to receive . . . so let's talk about a few things that someone might like to give to a camper.

Vacuum bottles in all sizes are great gifts and there's hardly an outdoorsman I know who couldn't use at least one more. It's nice to have several sizes. I usually carry two on hunting trips that will be headquartered out of an automobile. A small one, usually a pint, is carried in the hunting coat and a larger one (filled with hot soup) is cached in the car. After a hard morning hunt, hot soup makes those cold sandwiches a bit easier to take and seems to put you back in the spirit for another go at it in the afternoon. Traveling campers are discovering

that a bottle filled with hot soup, prepared right after breakfast, makes lunch stops much more convenient. Buy them in pairs to make sure that the tops are interchangeable. At one time I had no less than six vacuum bottles, all different sizes with odd-shaped plugs and tops. I always seemed to have the wrong top at the wrong time.

While they cost quite a bit more, I strongly suggest that you give that special camper one of the stainless steel jobs. They will last forever unless run over by a truck. The glass-lined bottle will be a memory in a few short years, I believe. I don't think I ever had a glass-lined one that lasted more than a few months.

It's surprising to note how many campers still do not have a lantern of some sort. For any kind of nighttime activity a lantern will beat a flashlight every time, except for fitting the glove compartment of a car. The tried and true gasoline models are always good bets, but be sure to include some extra mantles. After a mantle has been burned a few minutes it becomes very fragile. I've been using a lantern lately that is powered by a six-ounce

LP gas eylinder. It's very handy. The extra eylinders eost about 65 cents each, and while this is not quite so economical as the gas models, it is much cleaner. Each eylinder lasts about three hours with no pumping or elogging.

A higher ticket item that makes a great gift for any outdoorsman is binoculars. While the very best of these cost over \$100—sometimes way over!—serviceable ones can be had for about half that much. You'll have to check out with the receiver just what his preferences might be, but you probably won't go wrong with a pair of 7 x 35s. This is the most popular size for general field work and hunting. (Rountree family, please note.)

How About Snowshoes?

If your gift recipient does any winter eamping or other browsing around in the snow, why not consider a pair of snowshoes? They're a lot of fun once you get the hang of using them. Traveling on snow deeper than eight inches or so is much easier with them. For the beginning snowshoer the bear paw design is usually the best, and these often can be picked up quite reasonably at surplus stores. With a little care a pair will last a lifetime. Even if you don't use them much they look great as wall decorations in your den.

A low ticket item that outdoorsmen can always use more of is sunglasses—or perhaps they should be called outdoor glasses since many of the shaded opties today are made for purposes other than shielding the eyes from the sun. The amber- and orange-tinted ones are useful on gray overcast days since they really do lighten up the landscape. The standard green or

gray-green color can be just as valuable on bright days during the winter as they are in the summer months. Maybe more so. Some rugged outdoor types have the notion that the wearing of colored glasses is only for sissies and hippies, but after trying a pair



THIS IS THE SKATCHET, a new item that can be used to chop, pound, skin, etc.

that notion is soon thrown out the window. You can see so much better with sunglasses on a bright day, that it's foolish not to use them.

Just a minute ago we extolled the virtues of a lantern over those of a flashlight, but don't let that keep you from thinking about them as gift ideas. For a quick light during an emergency you've got to have a flashlight and it's got to work. Never give a flashlight unless you give batteries to go with it. Readers of this column know that I've mentioned flashlights before. I like 'em. I own about eight in different sizes and wouldn't mind receiving another one as a gift. Any size is useful, but don't fool around with the 49-cent specials that are so popular in dime stores. They are guaranteed to last about two weeks under ideal conditions. Plastic tube lights are okay if the threaded ends are well made. You can usually tell if a light is well made if it comes apart smoothly and goes back together the same way. If your recipient is going to be around water a lot, give a synthetic. If not, buy a metal-bodied one.

Then, of course, there are binoculars. . . . !!



If your camper friend also happens to be a hunter, ammunition is always nice to have under the tree. This is especially true if he is a target, trap or skeet addict. These people shoot up a lot of shells and they could never have too many. You'll have to do a little undercover work to find out what their preferences are, but that shouldn't be too difficult. Shooters are prone to talking about their likes and dislikes, and they all do have ammo preferences.

Every once in awhile a product that no one else has thought of comes along and really catches my eye. I suppose I'm a gadget lover at heart, but as a gift item I've really flipped over the "Skatchet." What is a Skatchet? Well, it's a knife . . . but it isn't. It's a hatchet . . . but it isn't. It's a hammer . . . but it isn't. I don't usually talk about brand names in this column but this particular item has no counterpart, so I don't think I'll offend any other manufacturer. It looks like a belt tomahawk without a handle. The Skatchet is made out of excellent steel

PLASTIC SNOWSHOES, new this year, weigh less than three pounds per pair, so can be worn by children, are bright orange for visibility.



and has one cutting edge that is really sharp just as it comes from the factory. One end is flat for small pounding jobs, and it has a notched groove for opening up a deer or other big game animal. You can slice, chop, pound and do all sorts of camp cutting jobs with it. No handle is supplied, but it's a simple operation to install a temporary handle. The hole through the middle of this instrument is heavily threaded. All you do is trim one end of a stick to fit the hole and twist it in tight. It comes with a leather case that has a belt loop, from Skatchet, Inc., Box 302, Springfield, Va. 22150.

Knives Always Needed

No camper ever has enough knives. At least I don't know one who does. It's a mistake to load a couple of dull kitchen cutters into your duffle and expect to have good results. Those finger manglers belong back home and not at the campground where a knife will be called upon to perform all sorts of jobs. I like knives slightly more than I do flashlights and would always welcome another one. I prefer a belt knife over a pocketknife, since they can usually be kept much cleaner and sharper.

A camper should really have two knives with him at all times. A rugged hard-steel blade for rough work and a fine, somewhat softer blade for delicate slicing and trimming. One of the imported fillet knives is perfect for the latter and once you've used one of these flexible blades you wonder why you ever did without one. Men, you might consider giving a good knife to your wife for kitchen duties too. She certainly deserves one, for all husbands are rather lax in sharpening the kitchen cutlery.

For back packing and as an emergency car trunk item a great gift is one of the nesting Boy Scout cooking kits. These little pot and pan outfits are just right for one- or two-person meals and solve the problem of what utensils to take along on an overnight trip. Combined with a one-burner LP



LANTERN SUCH AS THIS is generally the most satisfactory light source in camp, though for emergency use a good flashlight is still necessary.

gas stove, you're quickly and easily in business.

How about one of the smokeless catalytic heaters? They make a great gift for a camper who likes to get out early in the spring or late in the fall. In fact, the quick warmth of one of these stoves makes early summer

mornings a little more comfortable too. I've used one in a duck blind and they work fine there also. There's no law that says a duck hunter has to be cold.

For a camper or an outdoorsman of any stripe, there never seems to be an end to the things that he needs or thinks that he needs. Gift giving time should never be a problem for a person with outdoor hobbies—unless he happens to be part owner of Abercrombie & Fitch. Check the outdoor magazines and catalogs that are scattered about the house. Smart gift seekers have marked some of their favorite items. If they haven't ask them to do it. In case all else fails, here's a list that you can mark and deposit in a handy place. Just mark an X beside the things you need.

Lantern	Rucksack
Vacuum bottle	Camera
Snowshoes	Film
Ammunition	Rain gear
Knife	New Campground
(specify type)	directory
Hatchet or ax	GAME NEWS
Tent	subscription
Sleeping bag	Folding camp
Camp stove	stools
Compass	Reflector oven
Handwarmers	Foot pump for
Folding cot	air mattress
Air mattress	BinocularsX.....

Writing for GAME NEWS

Good manuscripts are always in demand at the GAME NEWS editorial office. Approximately seventy-five percent of the feature articles published by GAME NEWS are submitted by free-lance writers. Single photos and photo stories are also purchased from time to time from readers and professional photographers.

We are interested in seeing your manuscript if it can meet the following qualifications. 1. The subject material should be about or applicable to Pennsylvania outdoor activities—primarily hunting, trapping and related sports. 2. Articles must avoid presenting points of view that oppose official Game Commission policy. 3. Do not exceed 2,500 words in length (exceptions will be made in special cases). 4. There must be no hint of law breaking or “winking” at the Game Laws. 5. If photos are submitted they should be 8 x 10 enlargements.

GAME NEWS publishes no poetry or advertisements of any kind. We do publish reviews pertaining to books which deal with outdoor subjects.

Manuscripts must be submitted on white paper, double spaced and typewritten. No other form of presentation will be accepted. Payment for articles, photographs and artwork is made on acceptance.



ON THE BENCHREST BEFORE THE SEASON is the place and time to check out a scope for proper mounting, reticle's orientation, etc.—not in the woods.

IF

By Don Lewis

Photos by Helen Lewis

IF THAT BLASTED safety would have worked, I'd a had that monstrous buck," my friend Charlie lamented as we cased into a good looking chuck field. "If my glove hadn't interfered, I know I could have got the safety off. I've thought about that buck nearly every day since last hunting season. Every time I see a chuck now, I think of the size of that rack. If things had just been different."

"Charlie, they say that 'if' is the biggest word in the English language. Anyway, I don't feel too sorry for you. I told you at least three times to get a new safety on your rifle when you had the scope installed."

"I know. But I figured I didn't need one because I worked out a way to use the old safety. I got that I could slip my thumb under the scope and never lose a second."

"Why didn't you do that when the

buck appeared?" I asked Charlie.

"Nothing went right. I had big gloves on, and I couldn't get the right glove off. By the time I had my hand free, the deer got suspicious and began to move. Worse yet, I never did get the safety off, and all I could do was fumble frantically while the deer disappeared."

"A low-swing safe could have been manipulated with the glove on."

"Let's change the subject. I hunted for nearly 45 years waiting for a rack like that one, and when it did finally come my way, I never fired a shot. All I got to do was help Bill Flenner's boy drag it in."

"What did you do about the safety?" I asked.

"I took care of that in a hurry. I went right over to Ed's gun shop and had the best one money could buy installed."

"All you need now is for that size rack to come back again this year," I ribbed my friend.

"No need to worry about that," he said thoughtfully. "It took almost 45 years to see that rack, and it's unlikely I'll ever see another one that size."

"You know, Charlie, hundreds of hunters pulled similar boners last year, and there will be hundreds more this season who will fail because of some minor blunder. Understand, you couldn't coax a hunter to carry a rifle that wouldn't shoot, but you'd be surprised at the number that will put up with a rifle that has some minor problem that could easily be taken care of. Funny part of it is, most of them think as you did—that they'll lick the problem when it comes time to shoot."

"Most of them probably do just like I did," remarked Charlie.

"Truer words were never spoken. Remember, all the practicing you did getting on to working that old safe didn't do one whit of good when the big buck showed. I have no doubts that you got pretty slick at flippin' the safe while you were in the basement or out in the summer sun, but trying to get a heavy glove off and manipulate a cumbersome safety when the temperature is down is an entirely different story. Too many hunters find this out to their sorrow."

"I know how right you are, and it certainly taught me a lesson."

My old friend Charlie was just one of countless men who fell victim to "hunting gremlins" last year. Every season we hear of these simple mishaps. These gremlins run from rifles packed with grease to clips that fall out. When you think you've heard all the misfortunes that can happen, a new story comes to light. Most are

simple, while others are so ridiculous they are almost unbelievable. In Charlie's case, his mistake is unforgivable. He knew well in advance of the season that his rifle had a problem, and instead of trying to develop some slick method to overcome the deficiency, he should have had a new safety installed.



REPLACING MILITARY trigger, left, with adjustable type having integral safety, right, eliminates problems which can cost rifleman a trophy.

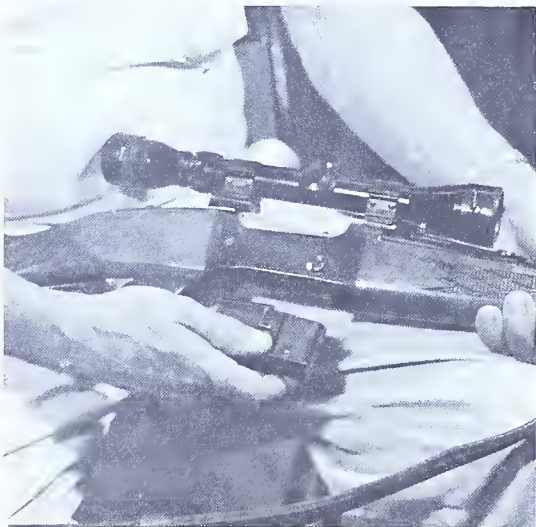
Another friend of mine once eased out on a little ledge of rock to get his shot. Just as he pulled the trigger, the ledge gave way and my hunting partner disappeared into a 15-foot gully. Naturally, no hunter could foresee an incident such as this. He can't be held responsible any more than the fellow whose shell won't go off. I honestly think that there are more times when the hunter can be blamed than times when shells won't go off or ledges give way. All these excuses begin with "ifs," but the hunter has no excuse when he's at fault. In every case something happened, and if it hadn't happened the hunter would have a trophy instead of a wild tale.

We have these blunders simply because we fail to check out our equipment. Believe it or not, I once met a hunter whose rifle had no hammer, and he had no idea what had happened to it. He was on his way out of the woods when I met him, but he had lost a good part of the morning



simply because he never looked at his rifle when he left camp. I have not figured out how he lost the hammer, but any examination prior to the season would have revealed the trouble.

If you study hunting in the proper perspective, you'll see how foolish it is to not get your equipment in top shape. Why try to hunt with a scope



DETACHABLE CLIP such as this one can get lips damaged, refuse to feed properly. Functioning should be checked on the range before hunting trip.

that's been fogging every time the weather changes? As much value as a scope is, one that will not stay clear in all kinds of weather is not worth having on a rifle. Now hoping that the weather will stay warm and dry so the scope won't fog is only asking for trouble. The answer is to get the scope repaired or replaced. Why take time off from work or save your vacation for deer hunting only to have it ruined by a scope that has been unreliable in the past?

There are various problems that plague the hunter, but I think the biggest reason a majority of the good shots are missed is simply because the rifle is not properly zeroed in. I've made this statement many times, and I believe it's true—more than half of the rifles that will be carried into the big game woods this year will not be sighted in. Experience has proved to

me that over 60 percent of all hunting rifles won't hit an eight-inch circle at 100 yards, and a good share of the 60 percent will be off more than a foot at the same distance. It would only be sheer luck if a hunter connected with a rifle in this condition.

A major reason why so many scoped rifles won't stay on target is due to improper mounting. This is a big offender. Many scopes are mounted too far forward because the owner fears getting struck in the face. Correct eye relief is impossible to get in these cases, and the user never gets a full picture. A little understanding of recoil along with some practice shots will soon prove that a full picture can be seen without cramming the face a mile forward, and there will be no danger of recoil throwing the scope back into the face of the shooter. Focusing the eyepiece until the reticle is sharp and black is a must, and I've found that only a relatively few scopes were focused for the person using them. What good is a scope that has a hazy, out of focus reticle?

Another thing, the axles on flip mounts are seldom tightened properly, and most hunters are not aware that on some types of swing mounts, the axles loosen a little every time the scope is flipped. Loose axles allow the scope to move enough to spread the bullets more than a foot at normal shooting distances. My advice is if you own a swing type mount, don't touch it unless you are forced to.

Many Problems

I could go on about reticles that aren't plumb, adjustment wheels that are forced to the limit, and other improper mounting procedures, but you probably feel none of these would happen to you. The trouble is that you might not know that you have a problem unless you consult your gunsmith. I met a fellow last season who had just missed a deer. He was somewhat baffled since he'd had a wide open shot, and he felt he knew how to shoot. His outfit was new, but when I



SHOTGUNS, TOO, CAN LET YOU DOWN. Firing pin can be broken by too much dry snapping on empty chamber. Use snap caps and be safe.

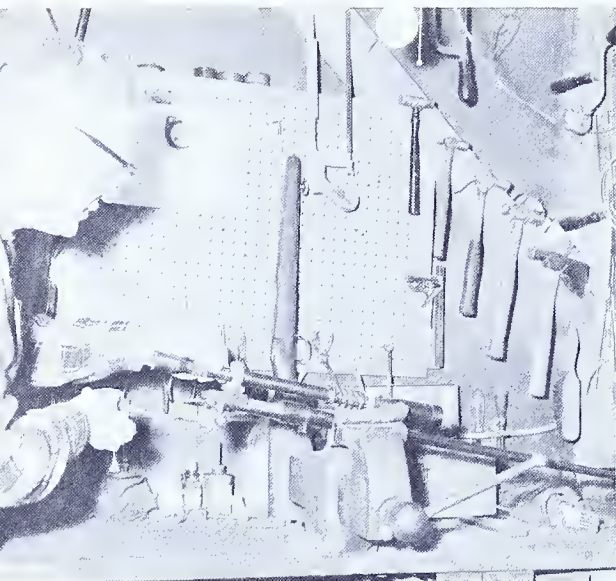
examined the scope, I found trouble. The eyepiece lock ring was not tight, and the reticle looked like an X. On top of all this, the scope was mounted as far forward as the design of the scope would permit. I was unable to see through the scope, and when I pointed out these errors along with offering to make some corrections, he refused. It was frustrating for me to see him leave with an outfit in that condition. All his problems couldn't have been corrected in the woods, but just getting the eyepiece in focus would certainly have helped.

To get good results, you must keep your rifle and scope in good shape. Finding out the first morning of buck season that your rifle won't feed the shells is really uncalled for. No one can anticipate a fall that breaks a stock or knocks off a sight. These are beyond normal precautions. But when you hunt with a rifle that won't feed properly, the fault is all yours. Per-

haps you deserve the consequences. You don't have to buy new equipment to assure yourself carefree hunting. A rifle is a lifetime investment to me, and it will easily last that long if reasonable care is given to it. The hunter's job is to see to it that his rifle is not neglected.

The tendency to put things off is really the reason why most of us get into these predicaments. We allow the summer to pass without ever once taking our rifle to the local range or having a gunsmith check it out. Dirt, grime and rust never cease trying to ruin your rifle, and when it stands forgotten in the corner for months, the stock warps forcing the rifle to be inaccurate. When it fails, the accusations you pile on the rifle are uncalled for.

If you haven't taken some of the precautions mentioned, you should now. A box or two of ammo burned at the range will satisfy you that the rifle



RETICLE OF target scope can be squared up by moving ring, as above, but most hunting models must have entire scope turned in mounts.

is ready for the coming season. Your shooting eye will certainly be sharpened, and you'll build the necessary confidence in yourself when you start putting shot after shot on the target. Make sure your rifle is clean and free from excess oil. Tighten all the screws on your rifle and scope before you begin to shoot. If you have open sights, make sure they're tight. A thorough inspection of the rifle will reveal any hidden defects. One hunter I know had his scope come loose while he was shooting at a grizzly in Alaska. Luckily, his guide was close enough to

give him his rifle, and the story has a happy ending. The scope had been removed for shipment, and had not been installed on the rifle securely.

Not all of us are as fortunate as he was. Most of our mistakes leave us empty-handed. The moment we have been waiting for comes and goes while we fumble with sticking safeties, try to see through a fogged scope, or try to force a handload into a chamber that refuses to accept it. Who's to blame? Where does the fault lie? You can blame your gunsmith, the rifle, or even your wife, but, if we face up to facts, there is no one to blame but ourselves. We own the rifle, and it's our responsibility to maintain it. True, the average hunter cannot be expected to know the technical aspects of a rifle, but each of us should see to it that the rifle we intend to use gets good care and a periodic inspection by our gunsmith. If we check our rifles out and prove to ourselves that we know where the rifle is putting its bullets, half the battle is already won.

Some hunters may feel that the things I've mentioned here are minor and of no real consequence. Indeed it might seem that way, but it's these insignificant problems that start the hunter on a year of alibis. If you take the advice offered here, you might be able to tell of a successful hunt that brings home a trophy instead of a mournful tale of woe that begins with "if."

What's a Minute?

Rifleman often speak of "minutes of angle" when describing group sizes, and it is generally accepted that one MOA equals one inch per 100 yards. But is this precisely true? Since there are 360 degrees in a circle and 60 minutes of arc in each degree, a complete circle contains 21,600 MOA. A circle's circumference also equals 2π (or 2×3.1416) \times the radius. Thus, for any range, R, a minute equals $6.2832 R$ divided by 21,600, or $.000291 R$. If R is 100 yards, or 3600 inches, one minute at that distance will be $3600 \times .000291$, or 1.0476 inches, rather than one inch even. It will be a directly proportionate amount at other ranges; i.e., 2.0952 inches at 200 yards, 10.476 at 1000, etc. And who knows—this might be important somewhere along the way!

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